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Editor's Comments

MOST maritime and naval historians have tended to ignore the American Deep South as a center of real importance to the nation. They have also tended to neglect the maritime history of Brazil to our south, and of Latin America's western coastal waters to Chile. This volume of the *American Neptune* is devoted to a reexamination of the maritime history of all three of these regions, in the hope that a somewhat new vision of them may emerge.

The major effort found here is a review of the role of the sea as far as the antebellum Deep South is concerned. It begins with a long and important article by Converse Clowse on 'Shipowning and Shipbuilding in Colonial South Carolina: An Overview.' In this article Professor Clowse makes it very clear that there was a great deal more shipbuilding taking place in eighteenth-century South Carolina than navy historians have believed, especially beginning in the 1740s. He also shows that South Carolina-owned vessels carried a much larger proportion of that state's exports abroad than has frequently been asserted. Indeed, had there not been a considerable prejudice in British and North American maritime circles against the use of live oak as ship timber, even more South Carolina vessels might have been built just before the Revolution.

The second article by George F. Pearce is an account of a voyage from October to December 1825 by William Bainbridge on USS *Hornet* from the City of Washington to Pensacola with a return by stagecoach. It gives us an overview of maritime activity in deep southern ports almost all the way to New Orleans during a period when this entire coastal area was beginning to become important from a maritime point of view. In general the careful reader will be surprised at the extent of this activity.

The third article by Paul D. Lockhart, entitled 'The Confederate Naval Squadron at Charleston and the Failure of Naval Harbor Defense,' seems to the editor especially surprising. The author shows that the South had available considerable naval forces which could have been used to protect Fort Sumter and the Charleston area, but that for various reasons these forces were not used in any effective manner.

In short, what emerges from these articles is a picture of the Deep South which was anything but passive in a maritime sense and which, had things been a little different, might well have competed navally as well as in maritime matters with a North which has always seemed so dominant to maritime historians.

As for the history of Latin American maritime development, we must turn to the book review section. First of all, we want to emphasize the importance of a new multivolume maritime history of Brazil edited and partly authored by Max Justo Guedes and a number of Brazilian maritime experts. For the *first* time we now have available a view of how Brazil handled its coastal and overseas commerce during a period of more than four centuries. It is an interesting and important addition to our maritime knowledge of this part of the world. Finally, we have a review of an equally significant book by Iris Engstrand on an important scientific expedition mounted by Charles III of Spain to study the flora and fauna of the American West Coast in the late eighteenth century. This gives us a fascinating perspective on this part of the Pacific just prior to the arrival there of Yankee ships and seamen, a period when the Pacific was still in no small measure 'A Spanish Lake.' It is our hope that these book reviews will stimulate interest and research in the maritime and economic activities of both the Portuguese and the Spanish mariners who operated south of the equator. The recent two-volume history of the Pacific prior to 1800 by Professor Spate of Australia has also emphasized this story. Only when we look at such works can we begin to understand the vital role played by our non-Anglo-Saxon brothers in opening up the seven seas to European and American mastery.

A final note. The entire maritime community, both here and abroad, is saddened by the sudden death of Philip S. Weld, a recent contributor to the *American Neptune*. Mr. Weld had such an adventurous spirit and the ability to improve the technology of sailing that he filled us all with admiration. We shall miss him very much.

ARCHIBALD R. LEWIS

Salem, Massachusetts

Shipowning and Shipbuilding in Colonial South Carolina: An Overview

By Converse D. Clowse

HISTORIANS have long held that shipowning and shipbuilding were secondary economic activities in the southern colonies. Overseas merchants, who were the eighteenth-century investors in shipping enterprises, concentrated on handling exports and imports. From their commissions and trading, these men built fortunes and formed an economic and social class which vied with the planter elite. Such merchants presumably relegated less profitable transatlantic freighting to British craft and the coasting trades and West Indian routes to American vessels based in northerly ports. With few purchasers for shipping resident in the region, shipbuilding supposedly remained an industry of slight consequence.

Such impressions deserve more careful evaluation than they have received. South Carolina serves as a test. The colony was typical of the region in that its economic backbone was bulky staples produced by slave labor. White settlers first cultivated lands along the coast and navigable rivers and streams, and the Low Country continued throughout the colonial era to yield most of South Carolina's exports. Since coastal waters were too shallow and treacherous for ocean-going craft, every substantial planter had to have transports to carry the output of his lands to Charleston, the colony's market town. South Carolina's focus on the only urbanized center south of Philadelphia was a deviation from the regional pattern. A suggestive interpretation explaining the emergence of the major colonial ports concludes, without exploring circumstances, that Charleston was atypical of other American entrepots, for it 'never developed a significant shipbuilding industry.'[1] If this view is correct, settlers so dependent on vessels for their livelihoods met their needs for carriers from outside sources.

1. J. M. Price, 'Economic Function and the Growth of American Port Towns in the Eighteenth Century,' *Perspectives in American History*, D. Fleming and B. Bailyn, eds., VIII (1974), p. 162. In his essay (pp. 121-86), Price devoted fewer than three pages (pp. 161-63) to Charleston.

This investigation, then, outlines patterns and trends in colonial South Carolina shipowning and shipbuilding. The perspective is general and impersonal, only incidentally identifying individuals or vessels by name. This view is the logical first step toward a comprehensive interpretation of shipping within the colonial South Carolina business milieu. The records will permit extraction of the names of shareholders in vessels, but such an inquiry would be an extensive separate project. Computers allow these deep probes into the fabric of the colony's commercial life. Such digging has already revealed much and some anomalies. For example, Charleston-based vessels carried far greater proportions of South Carolina's export trade than was once believed. In some periods of the colonial era, the Charleston merchant fleet carried 15 to 20 percent of all staples shipped and brought in appreciable amounts of imports.[2] By weaving such statistical findings from commercial records, the observations of contemporaries, and the insights and conclusions of other historians, a much fuller understanding of the extent and cycles of South Carolina shipowning and shipbuilding over the colonial years emerges.

For the forty years before the American Revolution, ship registers are a source that identify South Carolina-owned and South Carolina-built vessels.[3] Registrations were supposed to be made in the American colonies starting in 1697 in compliance with the Navigation Act of 1696.[4] But other than a few registrations interspersed among all sorts of probate documents in the late 1690's, the first known South Carolina register (book) starts in

2. C. D. Clowse, *Measuring Charleston's Overseas Commerce, 1717-1767: Statistics from the Port's Naval Lists* (Washington, 1981), pp. 124-26 (Table C-42).

3. 'Ship Register, 1734-1765' and 'Ship Register, 1765-1780 (1783)' (titles on spines of bound manuscript volumes) on deposit in the South Carolina Archives, Columbia, South Carolina.

4. 7 and 8 Wm. II, c. 22. See T. Cooper and D. J. McCord, eds., *Statutes at Large of South Carolina, 1682-1838* (Columbia, 1838-1841), II, p. 147, for a 1698 law scheduling fees for a 'Certificate' for a vessel 'according to the late Act of Navigation.'

1734.[5] From first entry to last in 1774, the record consists of some 787 registrations of which about 660 may be related to South Carolina. The substance of this series has been published without analyses.[6]

Every newly built craft had to be registered before it sailed on its maiden voyage whether engaged in inter-colonial or overseas commerce. Also any vessel which changed ownership or was altered in basic structure of hull or rigging was to be reregistered. The master, owner(s), or legal agent of the owner(s) appeared before the port's collector of customs, the recording official, and under oath supplied the vessel's name and home port,[7] type of build,[8] tonnage,[9] where built, year built, master's name, and owner(s) (and usually occupation and place of residence of each).[10] When these details were recorded in the book, a true copy or certificate was issued to the master of the craft for presentation at ports of call. Other copies were forwarded to customs officials in London, but these duplicates probably burned in a nineteenth-century fire.[11] After loss of the London copies, American ship registrations extant are in state archives.[12]

South Carolina ship registers are, then, a chronological series of uncluttered, fairly uniform, and easily interpreted entries. While questions may always be raised about the veracity of British records of colonial commerce, ship registrations remaining are probably fairly trustworthy. Nothing could be gained from the fraudulent registration of a valuable craft engaged in legal commerce. Falsifications were major crimes with penalties as severe as condemnation and loss of the vessel. Since each registration consists of regularized data, tallying information with pencil and paper is possible but tedious; however, a computer handles such raw materials far more efficiently and permits flexibility in relating categories.[13] Once the data in the South Carolina registers were put into the machinery, compilations (Tables 1, 2, 3, and 4) and other findings from this source could be incorporated into this study.

Problems associated with South Carolina ship registers are worth noting because they affected conclusions. These problems involve omissions rather than accuracy of recorded data. First, some registrations refer to earlier South Carolina registrations, which often are not traceable. One wonders how many registrations never found their way into the books.[14] Second, the record series appears suspiciously incomplete where South Carolina's minor ports are involved. Registrations for Georgetown and Beaufort, which became official ports in the 1730's,

5. For a summary of the first registrations, see C. D. Clowse, 'The Charleston Export Trade, 1717-1737' (unpublished Ph.D. dissertation, Northwestern University, 1963), pp. 142-43.

6. 'Ship Registers in the South Carolina Archives, 1734-1780,' introduction by R. N. Olsberg, *The South Carolina Historical Magazine*, 74 (1973), 189-299. After collating my copies of the substance of each registration with Olsberg's listings, I eliminated all registrations of vessels neither owned nor built in South Carolina and a few registrations which appeared to be duplicates. No two researchers would agree on the classification of some of the individual entries.

7. The home port or base from which a vessel operated was usually recorded as part of the vessel's descriptive name, as *Ship Dolphin of London*. In the absence of a home port designation, I determined home port as the place of residence of a sole owner or a majority of shareholders.

8. This eighteenth-century expression referred to a kind of vessel, the most common designations in South Carolina ship registers being ship, snow, brig (sometimes brigantine), schooner, and sloop. To avoid confusion, in this study generic words such as shipping, craft, vessels, bottoms, and merchantmen are used to encompass an undifferentiated grouping.

9. Tonnage figures incorporated in this study are tons as found in the source. Modern researchers have engaged in extensive calculations to prove that registered tonnage figures understated by a specific percentage the real or measured tonnage, the latter being a more accurate reflection of a vessel's carrying capacity. Some of this literature includes J. J. McCusker, 'Colonial Tonnage Measurement: Five Philadelphia Merchant Ships as a Sample,' *Journal of Economic History*, 27 (1967), 82-91; G. M. Walton, 'Colonial Tonnage Measurements: A Comment,' ibid., 27 (1967), 392-97; C. J. French, 'Eighteenth-Century Shipping Tonnage Measurements,' ibid., 33 (1973), 434-43. Many of the figures of recent investigators fall in range of impressionistic contemporary estimates such as the one by Gov. James Glen to Lords of Trade, 29 January 1752, Records in the British Public Record Office Relating to South Carolina (Manuscript volume on deposit in the South Carolina Archives, Columbia, South Carolina), XXV, 3-5, that tonnage from the registers 'is generally one fourth less than the real amount.'

Since a uniform formula for calculating registered tonnage was supposedly in use in British domains, 1695-1773, tonnage figures in the South Carolina registers should have been consistently calculated, and be reasonably safe for comparisons, over the span of this study. As early as 1703, South Carolina authorized the powder receiver to determine for tax purposes the tonnage of arriving vessels by multiplying length of keel X breadth of beam X depth of hold and then dividing the product by 95. See Cooper and McCord, eds., *Statutes of S. C.*, II, 213. This formula may have been followed in South Carolina, but it varies from the one used in Massachusetts in the same period. See B. Bailyn and L. Bailyn, *Massachusetts Shipping, 1697-1714: A Statistical Study* (Cambridge, Mass., 1959), pp. 8-10, for a discussion of formulae employed in Massachusetts and elsewhere in British domains.

10. For an evaluation of ship registers as an historical source, see Bailyn and Bailyn, *Mass. Shipping*, pp. 3-12. A copy of a Massachusetts registration will be found on p. 7. The format of South Carolina registrations is almost identical.

11. Ibid., pp. 4-5, n. 4, discusses the likely fate of ship registrations sent from the colonies to London.

12. The Pennsylvania (Philadelphia) registers and the Massachusetts registers are the most well-known of surviving fragments. The substance of the former was published piecemeal as 'Ship Registers for the Port of Philadelphia, 1726-1775,' *Pennsylvania Magazine of History and Biography*, 23-28 (1899-1904), in many issues; the latter, covering only 1697-1714, was extensively analyzed by Bailyn and Bailyn, *Mass. Shipping*.

13. Anyone wishing to know more about procedures followed should contact the author through this publication.

14. Possibly the collector of customs sometimes reversed recording procedures. He would first issue a certificate, but he would neglect to record the registration in the book.

do not commence until the early 1740's. Thereafter, registrations for vessels based in these ports are sporadic. For example, from 1758 through 1774 only eight craft based in Georgetown were registered (Table 1). Third, many small craft, chiefly schooners and sloops, were never registered or were registered for the first time years after they were constructed. While operating as plantation boats or packets within the colony, such small vessels did not have to be registered. Registrations reflect quite accurately the number of larger craft built in the colony since these had to be registered immediately for overseas employment. But only an unknown fraction of small craft built locally appear in the series. Finally, registrations of older vessels bought outside the colony seldom specified where these craft were purchased. As a result, little is known about secondhand craft bought by South Carolinians except the places of construction (Table 3). Despite these weaknesses, ship registers are as close to a comprehensive source of shipping information as ever existed and one which seems adequate to plot outlines.

A second series, the Charleston naval lists, supplements and complements South Carolina ship registrations. Naval lists have been searched by many historians as a source of trade data.[15] Each naval listing (either the entrance or clearance of a single craft) also includes the vessel's measurements, origins, and ownership as copied from its registration certificate. Little use has been made of this information about vessels. While naval officers were supposed to commence maintaining this record series after the passage of the Navigation Act of 1696, the earliest surviving Charleston naval lists cover 1717, and the series continues, with many gaps, until 1767 when it stops.[16]

Data pertaining to vessels and their owners in the naval lists are probably dependable within broad limits. Since naval officers were engaged in enforcing British laws, not in compiling detailed records of commerce, their listings bequeathed problems to historians. For example, place of construction is often 'pl' for plantations (American colonies) or 'Br' for Great Britain rather than the exact location usually specified in the registration. Moreover, naval lists from Georgetown and Beaufort are nearly all missing. As it is widely assumed that these ports had limited trade, only small merchant fleets, and never rivaled Charleston, the loss of their records is unfortunate but not too damaging in attempting to piece together the colony's shipping patterns.[17] Given the vagaries of the naval lists, every vessel credited to South Carolina by the computer was evaluated against internal evidence in the naval listing and external evidence, if any, to determine how the vessel should be classified. This painstaking approach to compiling rosters produced groupings which were as accurate as possible and set outer parameters of South Carolina shipowning and shipbuilding in years when Charleston naval lists provide the only clues.

★ ★ ★ ★ ★

Ship repairing doubtless started with settlement in South Carolina. Shipbuilding probably began very soon thereafter. The land provided many of the necessary raw materials for both refitting and new construction. Nature offered for the taking oak and other hardwoods suitable for hulls and pine trees for masts and oleoresins convertible to caulking and waterproofing compounds.[18] The Low Country was laced with tidal rivers and creeks with sheltered inlets suitable for stocks. Hardware, ropes, sails, and other manufactured gear had to be imported from England, but all American shipbuilders faced this disadvantage. South Carolina's most pressing

15. Great Britain, Public Record Office. Naval Office Shipping Lists for South Carolina, 1716-1767, Colonial Office 5/508-511. See, Clowse, *Charleston's Overseas Commerce*, pp. 8-15, for a discussion of the format and contents of this record series.

16. Clowse, *Charleston's Overseas Commerce*, p. 20. The complete years follow: 1717-1718; 1719-1720 (clearances only); 1724; 1731-1732; 1734-1738; 1758-1760; 1762-1763; 1766.

17. L. A. Harper in *Historical Statistics of the United States, Colonial Times to 1970*, Bicentennial Edition, 2 parts (Washington, 1975), pp. 1164-65, estimated that Georgetown and Beaufort accounted for only 5 percent of all South Carolina rice exports, 1739-1768, and controlled somewhat smaller shares of this export trade in the 1730's and after 1768. It is possible that the two lesser ports were primarily shipping points for bulky staples, and they handled even smaller shares of the colony's and region's import business.

British customs records for 1768-1772, which detail traffic to and from American colonial ports, support the view that Georgetown and Beaufort had only a fraction of the commerce of the region. These records, incidentally, could be analyzed by data processing for commercial information not obtainable elsewhere. These records are cited: Great Britain, Public Record Office. Ledgers of Imports and Exports: America, 1768-1772, 1 vol., Customs 16/1.

18. The stands of live oak (*Quercus virginiana*) in coastal South Carolina gave the colony its most significant economic advantage for shipbuilding. This evergreen was rated the best of many varieties of indigenous American oaks for constructing durable vessels. Live oak timbers were judged to be comparable to the brown oak (*Quercus robur*) of England. Nevertheless, South Carolinians were never able to capitalize fully on this natural asset, for the Royal Navy and many English shipowners remained obdurately prejudiced against vessels built of any species of American oak. See, R. Davis, *The Rise of the English Shipping Industry in the Seventeenth and Eighteenth Centuries* (London, 1962), p. 375, n. 3, and R. G. Albion, *Forests and Sea Power: The Timber Problem of the Royal Navy, 1652-1862* (Cambridge, Mass., 1926), pp. 24, 37, 244-45.

Table 1

SOUTH CAROLINA-OWNED[a] VESSELS REGISTERED BY HOME PORT 1734-1774

	Charleston		*Georgetown*[b]		*Beaufort*[c]		*Others*[d]		*Totals*	
Year	*No.*	*Tons*	*No.*	*Tons*	*No.*	*Tons*	*No.*	*Tons*	*No.*	*Tons*
1734	2	--					1	--	3	--
1735	9	190							9	190
1736	4	220					1	30	5	250
1737	6	240							6	240
1738	4	117							4	117
1739	1	40					1	14	2	54
1740	2	90							2	90
1741									-	--
1742	3	80					1	12	4	92
1743	9	300			5[e]	55[e]	3	45	17[e]	400[e]
1744	5	155	1	5	1	25	4	53	11	238
1745	21	1,320	1	20	3	85	3	62	28	1,487
1746	23	1,160	3	105	4	57	1	6	31	1,328
1747	10	565	1	10	2	30	3	100	16	705
1748	25	1,162	4	140			1	20	30	1,322
1749	11	444	3	155			1	20	15	619
1750	17	818	2	52	1	25			20	895
1751	14	700	2	100					16	800
1752	7	345	2	50	1	20	2	35	12	450
1753	18	566	2	32					20	598
1754	9	242	2	40					11	282
1755	7	250	1	25			1	95	9	370
1756	4	320	2	25	2	70			8	415
1757	18	1,112	1	20			1	150	20	1,282
1758	10	735							10	735
1759	19	997							19	997
1760	5	135			1	12	1	20	7	167
1761	10	304							10	304
1762	16	720	1	20					17	740
1763	21	990							21	990
1764	29	1,083	2	80	3	78	1	15	35	1,256
1765	25	739			4	92			29	831
1766	26	1,098							26	1,098
1767	41	1,546			2	200	1	9	44	1,546
1768	4	107			1	100			5	207
1769	5	160			1	25	2	52	8	237
1770	19	1,002	2	65	1	20	1	20	23	1,107
1771	23	1,335	2	65	1	40			26	1,440
1772	18	440			1	80			19	520
1773	39	1,966	1	20			1	15	41	2,001
1774	13	741							13	741

Source: Compiled from South Carolina Ship Registers

[a] Vessels owned at least in part by South Carolina residents

[b] Includes Winyaw Bay vessels

[c] Includes Port Royal vessels

[d] Home port designation uncertain for most vessels in this column

[e] One vessel with no tonnage

Table 2

CLASSIFICATION OF REGISTRATIONS OF SOUTH CAROLINA-OWNED[a] VESSELS, 1734-1774

	Initial Registrations[b]						Reregistrations[e]		All Registrations[f]	
	Older Vessels[c]		New Vessels[d]		Totals					
Year	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons
1734	3	--			3	--			3	--
1735	5	135			5	135	4	55	9	190
1736	4	175			4	175	1	75	5	250
1737	5	210	1	30	6	240			6	240
1738	1	40	3	77	4	117			4	117
1739	2	54			2	54			2	54
1740	1	70	1	20	2	90			2	90
1741									-	--
1742	1	50	3	42	4	92			4	92
1743	8[g]	235[g]	7	115	15[g]	350[g]	2	50	17[g]	400[g]
1744	2	60	5	108	7	168	4	70	11	238
1745	14	1,224	13	248	27	1,472	1	15	28	1,487
1746	11	765	17	509	28	1,274	3	54	31	1,328
1747	8	410	7	215	15	625	1	80	16	705
1748	12	716	13	406	25	1,122	5	200	30	1,322
1749	3	74	9	460	12	534	3	85	15	619
1750	4	365	13	460	17	825	3	70	20	895
1751	4	285	9	441	13	726	3	74	16	800
1752			9	365	9	365	3	85	12	450
1753	4	170	13	348	17	518	3	80	20	598
1754	2	40	4	71	6	111	5	171	11	282
1755	4	275	3	65	7	340	2	30	9	370
1756			5	320	5	320	3	95	8	415
1757	12	1,045	4	67	16	1,112	4	170	20	1,282
1758			3	45	3	45	7	690	10	735
1759	13	897	4	60	17	957	2	40	19	997
1760	3	100	4	67	7	167			7	167
1761	4	130	4	119	8	249	2	55	10	304
1762	13	530	3	190	16	720	1	20	17	740
1763	12	475	6	415	18	890	2	40	20	930
1764	10	445	15	578	25	1,023	10	233	35	1,256
1765	7	194	17	482	24	676	5	155	29	831
1766	10	525	14	505	24	1,030	2	68	26	1,098
1767	9	288	25	1,049	34	1,337	10	209	44	1,546
1768			4	147	4	147	1	60	5	207
1769	2	60	3	90	5	150	3	87	8	237
1770	12	560	7	442	19	1,002	4	105	23	1,107
1771	12	575	7	600	19	1,175	7	265	26	1,440
1772	4	155	10	244	14	399	5	121	19	520
1773	15	850	9	621	24	1,471	17	530	41	2,001
1774	4	100	7	586	11	686	2	55	13	741

Source: Compiled from South Carolina Ship Registers

[a] Vessels owned at least in part by South Carolina residents

[b] Vessels registered for the first time in South Carolina

[c] Used or secondhand vessels built outside South Carolina and all prizes of war and vessels condemned as illegal traders regardless of where built

[d] Built in South Carolina and registered for the first time

[e] Vessels determined to have been registered previously in South Carolina

[f] Total in this column are the same as Totals shown in Table 1

[g] One vessel with no tonnage

problem in the early decades may have been the difficulties in developing sawmills in a flat coastal plain without swift-running rivers.[19] From what is known, the first settlers, as well as the colony's English promoters, expected that refitting and shipbuilding would be mainstays of the economy.

The extent of this activity during the early decades will always be a subject for conjecture. Ship repairing and shipbuilding probably had greater relative economic significance earlier than later. Vessels were built during the 1670's. Two 1678 letters refer to a craft under construction. Almost every vessel arriving from overseas required patching. One authority on shipping estimates that repairs totaled one-fourth to one-third of a vessel's operational costs in the late seventeenth century. The proportion was higher in the eighteenth century.[20] As early as 1673, a vessel was fitted for sea at Charleston. Tens of such casual mentions in literary sources convey the impression that refitting provided employment and wages during the years settlers were struggling in a hostile and unfamiliar environment. Most settlers continued to live in or near Charleston. The colony produced little for sale until about 1700 when commercial agriculture became established.[21]

South Carolina records intimate that shipowning increased during the 1690's though figures for comparisons are lacking. The colony had at least ten bottoms in 1697-1698 when the first registrations were taken. The largest craft was fifty tons burden and the smallest twenty-five. Two were brigantines, seven were sloops, and one an unspecified type. Four were built in the colony. Two sloops were launched in 1696, one thirty tons and the other fifty. In 1697, a thirty-ton sail of unspecified type was built. In 1698 a sloop of thirty tons was constructed. Of the other vessels held in the colony, one had been built in Connecticut, one in 'New England,' one in 'Piscataqua,' one in New York, and two in Bermuda.[22] Although this inventory was made at the conclusion of King William's War, South Carolina's holdings apparently included no captured enemy vessels.

South Carolina's 10 craft aggregating 330 tons in 1698 comprised one of the smallest merchant marines of any British North American colony. In contrast, Massachusetts had 171 vessels totaling 8,453 tons; but Connecticut may have had no more than 20 vessels, and Rhode Island fewer than 30. Virginia, after ninety years, reported only 27, and in 1700 New Hampshire claimed only 24.[23] Considering South Carolina's painfully slow growth over its first three decades, its small fleet is hardly surprising. In 1700, the colony consisted of only about 6,000 persons divided equally between free subjects and slaves.[24]

Despite the construction of the 1690's, impetus to enlarge shipbuilding stalled. Edward Randolph, the peripatetic British bureaucrat sent to survey the American colonies, observed in March 1699 that most South Carolina vessels had been destroyed during the recent war. He implied that the colony had a larger merchant fleet earlier though one wonders if this was possible. He concluded that lack of local shipbuilding was handicapping the colony's growth.[25] Randolph's views confirm, in general, what the known registrations show. Unfortunately he did not estimate the number and carrying capacity of locally owned vessels. He seems not to have understood that it was actually the colony's undeveloped economy which inhibited investment in shipping.

Much of the succeeding fifteen years is a mystery and little can be learned from the sources about South Carolina shipowning and shipbuilding. The next trustworthy measurements were left by Gov. Nathaniel Johnson. In an official economic and social survey prepared for London authorities in 1708, he stated pithily that not 'above Ten or Twelve Sail of Ships' were owned by South Carolinians. While half of these had been constructed locally, only one vessel was on the stocks when he wrote. Nothing in Johnson's report suggested that South Carolina had larger holdings than those of the late 1690's. He also does not indicate whether Queen Anne's War then in progress had any influence on shipowning and shipbuilding, and he does not mention losses to enemies or possible prizes of war

19. C. D. Clowse, *Economic Beginnings in Colonial South Carolina: 1670-1730* (Columbia, 1971), pp. 83, 179-80. According to literary sources, the South Carolinians were still trying to overcome this problem at least as late as the 1710's.

20. Davis, *Rise of English Shipping*, pp. 368-69.

21. Clowse, 'The Charleston Export Trade, 1717-1737,' pp. 145-49, has the examples of ship repairing and shipbuilding mentioned in this paragraph and other references to these activities during the colony's early years. For a detailed consideration of South Carolina's early development, see Clowse, *Ec. Beginnings in Col. S.C.*, pp. 1-138, and S. O. Stumpf, 'A Case of Arrested Development: Charles Town's Commercial Life, 1670-1690,' *Southern Studies*, 20 (1981), 361-77.

22. Clowse, 'Charleston Export Trade,' p. 143, n. 5, cites sources and recording dates for these registrations.

23. Bailyn and Bailyn, *Mass. Shipping*, pp. 22 and 78 (Table I).

24. Clowse, *Charleston's Overseas Commerce*, p. 30 (Table A-11).

25. Edward Randolph to Lords of Trade, 16 March 1698/9, in A. S. Salley, ed., *Narratives of Early Carolina, 1650-1708* (New York, 1911), pp. 204-10. This letter has been reprinted in a number of other collections of colonial documents.

obtained. His wording could imply that the colony's vessel holdings had actually declined recently.[26]

The exact course of events may never be determined, but South Carolina's overseas merchants with money to invest would probably not have been attracted to shipping between 1700 and 1710. The war in progress possibly interfered with safe navigation. More importantly, South Carolina planters were now concentrating on two emerging staples. Rice became an established crop and was enumerated by Parliament in 1705. Naval stores delivered in England were given bounties starting in 1706.[27] White immigration increased; importing slaves directly from Africa became important commerce for the first time. By 1710 the total population had reached 10,000, with the black population beginning to edge ahead of the number of whites.[28] A rapidly growing export trade generated the colony's first wealth, but capital demands for expansion escalated. The mercantile community allocated its resources to expand businesses and to underwrite the development of new lands and purchase of slaves rather than invest for less certain returns in shipping. Thus, before 1710 local overseas merchants were becoming hard-pressed to maintain their hold of the colony's commerce.

With free-market forces attracting investors to the soil, the South Carolina Assembly attempted to encourage and support shipowning and shipbuilding through financial inducements. Two general kinds of concessions were offered between the 1690's and 1722.[29] A superficial reading of pertinent statutes leaves the impression that the legislators were precursors of modern public-spirited boosters. However, their promotional motives may have been mixed with guile.

One set of enactments favored local shipowners though conceivably shipbuilders could benefit as well. A 1703 law is representative of the assembly's strategy. Passed just as exports from the colony started to grow, the statute halved South Carolina duties on imports and exports if slaves or goods were carried on a vessel built in the colony and owned by South Carolinians. A vessel built outside the colony but owned by South Carolinians would have its cargo taxed at two-thirds full rates.[30] The culmination of this legislative initiative was reached with the passage of laws in 1717 and 1719. Between the two, the 1717 statute gave more liberal concessions to South Carolinians. Under this law, South Carolina owners of South Carolina-built craft would enjoy duty-free trading. South Carolina owners of vessels built elsewhere would pay three-fourths of legal duties. South Carolina-built vessels owned by persons living outside the colony would pay only half the regular duties. The Lord Proprietors disallowed the law. Undaunted, and probably defiant, the assembly passed a similar statute in 1719. Worded slightly differently, it had the same general stipulations and same intent as the 1717 law. Once more the proprietors used their veto. In both messages, they cited the injustice of differentiating between South Carolinians and persons living in England or other colonies.[31]

The proprietors understood the situation and were correct in interpreting these South Carolina laws as being discriminatory. The ostensible promotion of shipowning and shipbuilding was aimed at helping Charleston merchants hold the port's commerce. In effect, such laws laid a surtax on the businesses of English merchants freighting goods to and from Charleston in their own vessels. Such stratagems by the South Carolina Assembly to stave off English interlopers could not have succeeded in the long run. Yet these laws vented antagonisms both merchants and planters held against English mercantile houses, emotion which seems to have been present to some degree in every American colony much of the time. The proprietors' vetoes represent victory for equity and the lobbying efforts of English merchants and the pressure of British authorities. The actions probably further weakened the loyalties of settlers who already had many reasons to revolt against their overlords. They did so in 1719.[32]

The assembly's other approach was to offer subsidies for vessels built in the colony, directly promoting local

26. Governor Nathaniel Johnson to Lords of Trade, 17 September 1708, in A. S. Salley, ed., *Records in the British Public Record Office Relating to South Carolina* (Atlanta and Columbia, 1928-47), V, 203-10.

27. 3 & 4 Anne, c. 5 and c. 10. For a discussion of the development of commerce in rice and naval stores, see Clowse, *Ec. Beginnings in Col. S.C.*, pp. 122-34.

28. Clowse, *Charleston's Overseas Commerce*, p. 30 (Table A-11).

29. For broader coverage of these laws, see Clowse, *Ec. Beginnings in Col. S.C.*, pp. 117-19, 181-82, 224-25.

30. Cooper and McCord, eds., *Statutes of S.C.*, II, 200-06.

31. Ibid., III, 32-33, 56-69. The veto messages from the Lords Proprietors to the governor and council nullifying the 1717 and 1719 laws are appended to the statutes. Negating these and other laws in the 1710's aroused the ire of South Carolinians, for the proprietors had not invoked their power to veto statutes since the early 1690's.

32. M. E. Sirmans, *Colonial South Carolina: A Political History, 1663-1763* (Chapel Hill, 1966), pp. 103-28, detailed the events preceding the overthrow of the Proprietary. Sirmans concluded that '. . . political rights played almost no part . . .' in the revolt which was really '. . . against neglect and maladministration' (quotes from p. 128). For an interpretation oriented around economic grievances of the settlers, see Clowse, *Ec. Beginnings in Col. S.C.*, pp. 184-95.

Table 3

PLACE OF CONSTRUCTION OF SOUTH CAROLINA-OWNED[a] OLDER VESSELS INITIALLY REGISTERED 1734-1774

	Place of Construction																	
	New England		Middle Colonies		Other NA Colonies[b]		West Indies[c]		Great Britain		Prizes of War		Illegal Traders[d]		Others[e]		Totals[f]	
Year	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons
1734															3	--	3	--
1735	2	65	2	20											1	30	5	135
1736	2	120	2	55													4	175
1737	4	195	1	15													5	210
1738	1	40															1	40
1739	1	40	1	14													2	54
1740					1	70											1	70
1741																	--	--
1742																	1	50
1743																	8[g]	235[g]
1744	1	40															2	60
1745	3	105	1	24					1	55							14	1,224
1746	5	240					1	15									11	765
1747			1	40													8	410
1748	1	40	4	96													12	716
1749	1	50	1	6													3	74
1750	1	25					1	30									4	365
1751	2	185					1	20									4	285
1752																	--	--
1753	2	65	2	105													4	170
1754							1	20									2	40
1755	1	40															4	275
1756																	--	--
1757	2	65					1	15									12	1,045
1758																	--	--
1759	1	20			2	53	1	30	1	130							13	897
1760							1	20									3	100
1761	1	30			1	20	1	35									4	130
1762					1	20	3	85	1	30							13	530
1763	2	85	1	15	1	120											12	475
1764	4	210	1	40													10	445
1765	2	60					3	90									7	194
1766	8	455					2	70									10	525
1767	4	90	2	118	2	50	1	30									9	288
1768																	--	--
1769			1	30			1	30									2	60
1770	5	195	1	80	1	65	2	50	1	120							12	560
1771	2	55	1	100	3	245	6	175									12	575
1772			1	80			2	45									4	155
1773	1	60			7	432	4	168	1	140							15	850
1774	1	30			1	20	2	50									4	100

Source: Compiled from South Carolina Ship Registers

[a] Vessels owned at least in part by South Carolina residents

[b] Most vessels in this column built in Virginia, Maryland, North Carolina, and Georgia

[c] Includes vessels built in Bermuda and the Bahamas

[d] Vessels condemned for illegal trade

[e] Vessels of uncertain origin

[f] Totals in this column are the same as those in Older Vessels column in Table 2

[g] One vessel with no tonnage

Table 4

Shipbuilding in South Carolina by Year[a] of Construction, 1734-1774

	Vessel Types													
	Ships		*Snows*		*Brigs*		*Sloops*		*Schooners*		*Others*		*Totals*[b]	
Years[a]	*No.*	*Tons*	*No.*	*Tons*	*No.*	*Tons*	*No.*	*Tons*	*No.*	*Tons*	*No.*	*Tons*	*No.*	*Tons*
1712-16	3	260					7	162			1	6	11	428
1717-19	1	150	2	130			10	154	6	78			19	512
1720-24							4	120					4	120
1730-33	1	90			1	70	3	50	2	52			7	262
1734														
1735							2	40					2	40
1736									3	57			3	57
1737									2	20			2	20
1738					1	50	1	5	1	15			3	70
1739					1	40			1	20			2	60
1740									3	55	1	7	4	62
1741									3	37			3	37
1742									5	67			5	67
1743							1	40	4	75			5	115
1744							1	10	9	193			10	203
1745					1	50	1	10	8	142			10	202
1746	1	130			1	80	1	15	8	167	1[c]	60	12	452
1747			1	85					5	91	1[c]	80	7	256
1748					2	120	1	35	9	250	1[c]	60	13	465
1749	1	125	3	270	1	40			6	133			11	568
1750			1	75	1	45	1	35	4	65			7	220
1751	1	180			1	70	2	48	7	160			11	458
1752	1	130	2	180			1	20	7	138			11	468
1753					2	110	1	12	6	151			9	273
1754							1	16	6	90			7	106
1755							1	25	4	80			5	105
1756	1	180			2	70	1	10	2	60			6	320
1757									2	32			2	32
1758									1	16			1	16
1759							1	29	4	65			5	94
1760									4	65			4	65
1761					1	60			4	72			5	132
1762	2	330							3	70			5	400
1763	1	160			1	50			8	137			10	347
1764	2	380							10	208			12	588
1765					1	80			14	264	1	30	16	374
1766	3	610			1	65			11	255			15	930
1767	1	160			1	70			5	107			7	337
1768			1	100					5	117			6	217
1769	1	170							4	85			5	255
1770	1	200							4	77			5	277
1771	2	400			2	100			8	183			12	683
1772					2	140			4	67			6	207
1773	3	580			1	60			4	81			8	721
1774	1	200			2	125			1	20			4	345
Totals--														
1734-74	22	3,935	8	710	25	1,425	17	350	199	3,987	5	237	276	10,644

Sources: Charleston Naval Lists for 1712-1733; South Carolina Ship Registers for 1734-1774

[a] Year built as specified in sources

[b] Totals in this column have been compiled on a different basis from Totals in New Vessels column in Table 2

[c] Bilander

shipbuilding. Since the first bounty law was not passed until 1711, it may have been necessary to stimulate a lagging industry and provide tonnage for local shipowners. Under the law, the treasury would pay 7s. 6d. current money per ton for vessels constructed. Renewed in 1714, 1718, and 1720, the program apparently lapsed permanently in 1722.[33] South Carolina Treasury accounts for the years in question are either missing or fragmentary, so it is impossible to be sure if subsidies were actually paid to shipbuilders.[34] One wonders how payments were maintained in the face of the colony's financial problems after 1715, when the Yamassee War started. On the other hand, if the colony was not able to pay, the bounty law would probably not have been kept in effect.

For whatever incentive, between 1712 and 1720 South Carolina shipbuilders constructed more craft than in any comparable period until the late 1740's. Shipbuilding began to increase in the years immediately following Gov. Nathaniel Johnson's 1708 report though it is not possible to document exactly which year. Despite the Yamassee War, the peak years may have been 1717-1719. Naval lists for 1717 (the earliest available) show at least eleven craft aggregating 428 tons credited to South Carolina constructors from 1712 through 1716. Unfortunately, the local origin of only two may be corroborated in the source. It is quite possible that my method of compiling a list of South Carolina-built vessels failed to catch some craft built during the previous five years and sold away from the colony before 1717. Between 1717 and 1719, a maximum of nineteen more vessels totaling 512 tons came off the stocks. One was a ship; two were snows; ten were sloops; and six were schooners (Table 4).

The shipbuilding estimates for South Carolina for the 1710's seem credible when fitted into the colony's mercantile context. During the 1717-1720 years, the Charleston fleet was the largest until the late 1740's and early 1750's. In 1717, the port had thirty-three vessels aggregating 1,143 tons. The numbers of craft and tonnage dwindled each year thereafter. In 1718 there were twenty-five totaling 1,110 tons; in 1719, twenty-four summing to 867 tons; in 1720, twenty representing 647 tons.[35] This statistical evidence agrees with Gov. Robert Johnson's written testimony of 1720 that the colony had about twenty vessels, most of which were small.[36]

Other references in literary sources confirm that South Carolinians were interested in shipping and believed that shipbuilding could become a viable industry in the colony.[37] A 1717 memorial to the Lords of Trade mentions the increase in shipbuilding in South Carolina and its potential.[38] The previous year, when the Yamassee War reduced the area safe for agricultural pursuits and threatened the very existence of the settlement, the proprietors ordered an exemption from military duties for shipwright Benjamin Austin, his apprentice, and fourteen other employees.[39] Austin built the 150-ton *Princess Carolina* for Samuel Wragg, Charleston merchant. It was the largest ship constructed during the 1710's and probably the largest built hitherto. Gov. Robert Johnson noted that the vessel was made of Virginia and Rhode Island oak planking.[40] When she sailed from Charleston for England in 1718, Austin was listed as master. The ship and Austin made a later voyage to Charleston, but Austin seems to have ended his shipbuilding in the colony.[41] Careful search revealed no ship so large built in South Carolina until 1751, though two smaller vessels of this class were launched in 1746 and 1749. *Princess Carolina* symbolizes the peak of the colony's early shipbuilding. By 1720, the industry was moribund. Local shipwrights continued to produce an occasional small craft, more likely a schooner than a sloop.

The Charleston mercantile community's eroding position shows in the declining shares of commerce carried by its fleet. In 1717-1718, their carriers brought in over 20 percent of all slaves landed; in 1724, 15 percent. Over the four years, 1717-1720, Charleston vessels clearing

33. Cooper and McCord, eds., *Statutes of S.C.*, II, 365; III, 84-86, 117.

34. According to M. A. Crouse, *The Public Treasury of Colonial South Carolina* (Columbia, 1977), p. 4, no records of the South Carolina Treasury survive for years before 1725.

35. Clowse, *Charleston's Overseas Commerce*, pp. 115-17 (Table C-22).

36. Governor Robert Johnson to Lords of Trade, 12 January 1720. Records in Br. PRO Relating to S.C., VII, 233-50.

37. Ibid. Governor Johnson reported that the lack of skilled craftsmen to undertake shipbuilding was the reason so few vessels had been constructed in the colony.

38. Memorial from Joseph Boone and Richard Berrisford, agents for South Carolina, to the Lords of Trade, 22 February 1717. Records in Br. PRO Relating to S.C., VII, 5-8.

39. Proclamation from the Proprietors to the Governor, Press Masters, and others, 23 February 1716. Ibid., VI, 148.

40. Gov. Robert Johnson to Lords of Trade, 9 November 1734. Ibid., XVII, 174-93. In his letter, the governor added that South Carolina oak was judged to be superior to oak from the more northerly colonies. He implied that in the 1710's it had been necessary to use the Virginia and Rhode Island oaks because South Carolina oak was not accepted by buyers as proper shipbuilding material.

41. PRO C. O. 5/508. Vessel cleared Charleston 3 April 1718 and again on 7 March 1719.

accounted for 17 percent of all tonnage. These craft transported 17 percent of the rice, 11 percent of the naval stores, and 14 percent of the deerskins. These shares are some of the highest proportions for the Charleston fleet found any time in the colonial era. By 1724, local vessels accrued only 8 percent of the clearing tonnage. This shipping carried away 6 percent of the rice, 6 percent of the naval stores, and 11 percent of the deerskins. Though the 1717-1720 shares do not show year-to-year fluctuations, the 1720 shares were considerably lower in most cases than the 1717 figures. An accelerating decline occurred between 1720 and 1724. As American colonial vessels lost business in Charleston carrying trades, British craft increased their share of tonnage from 56 percent in 1717-1720 to 72 percent in 1724.[42]

The dynamism of the South Carolina economy after 1710 brought drastic changes in its business medium generally. Wherever profitable trade opportunities beckoned within the empire, British merchants responded. Marshaling capital, goods, and shipping, they moved into any favorable situation. South Carolina-based merchants were at a disadvantage and inevitably experienced reduced shares of business as the first wave of a British invasion occurred. The Charleston mercantile community did lift their investment level sharply to the range of £4,000 to £5,000 sterling by the mid-1710's, perhaps relatively the greatest commitment to shipping of the colonial era.[43] The amount was certainly considerable for the South Carolina of 1715. Possibly these investments were an attempt by local merchants to maintain both commission business and freighting revenues, but by 1720 a typical South Carolina overseas merchant was waging a losing battle by any measure of business success. It is no wonder that South Carolina's beleaguered merchants turned to the assembly for laws to give them trading advantages against their stronger British competitors.

It was also during the 1710's that English combines gathered capital and goods and set up factories in Africa to dominate this nefarious but profitable commerce. American colonials, whether South Carolinians or New Englanders, lacked the economic power required to procure slaves and transport them to the New World. In a decade when South Carolina's population advanced from 10,000 to about 19,000, about three-fourths of the increase was in newly imported slaves.[44] This additional labor represented considerable import value, and the trade was dominated increasingly by English vessels.[45] A rapidly growing slave population correlated, as usual in this colony, with increasing outputs of rice and naval stores, hallmarks of the economic surge of the period.

Moreover, British manufacturing and exporting exploded, sending shock waves throughout the empire starting in the late 1710's and lasting until about 1740. Economic historians designate these approximately twenty years as the first great spurt in eighteenth-century commerce.[46] Our primary concern is not with causes of this boom, but one significant trend should be noted. Research shows that prices of American exports, particularly staples, were rising more rapidly than the costs of the flood of British processed goods appearing on the market. Available evidence suggests that South Carolina followed the general pattern and returns from rice shipments increased sufficiently to expand the colony's total imports.[47] More research into the prices of South Carolina exports prior to the 1730's will be required, however, to prove this contention beyond question. This upheaval, being a virtual revolution in British and American commercial relationships, would have likely damaged the trading positions of Charleston merchants lacking the resources to adjust their operations to meet new financial challenges.

Added to the above, the colony's governmental and economic fabric unraveled after 1715. The cumulative impact of the Yamassee War, pirate depredations, a

42. Clowse, *Charleston's Overseas Commerce*, pp. 121-27 (Tables C-41, C-42, and C-43).

43. In this period each ton of shipping represented an estimated investment of about £3 or £4 sterling. Estimating the value of a mixed group of eighteenth-century vessels is a problem in creative projections. Contemporaries would have determined each vessel's value by weighing such variables as age, size, present condition, years of service remaining, current demand for used shipping, and other factors equated in setting market value. Historians have none of this information. For a general discussion of the costs of new shipping, see Davis, *Rise of English Shipping Industry*, pp. 372-75. Davis set a range from £2 to £8 per ton as usual costs, wide-ranging values which illustrate the difficulties in projecting total worth for a group of vessels of unknown qualities.

44. Clowse, *Charleston's Overseas Commerce*, p. 30 (Table A-11).

45. Ibid., pp. 121-23 (Table C-41).

46. For a convenient summary and interpretation of the growing literature pertaining to economic cycles and trends in the British Empire, see M. Egnal, 'The Economic Development of the Thirteen Continental Colonies, 1720 to 1775,' *The William and Mary Quarterly*, Third Series, 32 (1975), 191-222. While questions abound about the trustworthiness of the English customs records, figures in *Hist. Statistics of the U.S.*, pp. 1176-77 (Series Z 213-226) indicate that the official value of goods shipped from England to (North and South) Carolina increased dramatically starting about 1710 and the expansion continued into the 1720's. Much of this import trade must have gone to Charleston, the largest trade center on the Carolina coast.

47. P. A. Coclanis, 'Rice Prices in the 1720s and the Evolution of the South Carolina Economy,' *Journal of Southern History*, XLVIII (1982), 531-44, presented prices of rice (the staple of this period) found in estate inventories. He concluded that rice prices were rising during the 1720's.

debt-ridden and inadequate proprietary government, a fluctuating local currency, and other problems should not be discounted as contributing to the woes of local merchants. Coalescing economic and political pressures helped reduce the first Charleston mercantile community. Some merchants curtailed their operations. Some probably were forced out of business.[48] Not only were Charleston merchants being pushed out of shipowning and trading, but the subsequent turn of affairs left them limited chances to regain lost business.

Contemporaries often imaginatively embellished their descriptions of economic conditions in the colony in the 1720's, but at best the economy was a mix of strong and weak facets.[49] Local merchants, always articulate and politically active, complained about their competitors. Producers of naval stores lost almost all of their business after 1725 when bounties ceased. The deerskin trade, in disarray since 1715, only gradually recovered. In contrast to these woes, rice planters did rather well. Having doubled production between the early 1710's and early 1720's, planters more than redoubled the early 1720's production by the early 1730's.[50] To accomplish the productive increases, South Carolinians brought 9,000 new slaves into the colony during the 1720's to add to the 8,000 imported in the 1710's.[51] Rice prices remained strong despite the productive increases, and planters' income was sufficient to expand import volume and value from England dramatically.[52]

The lot of South Carolina merchants improved slowly, if at all, during the 1720's when the colony's dependence on rice, slaves, and capital for expansion fostered predominance of British merchants. The conduct of commerce forged bonds of mutual obligation between English mercantile houses and their agents at Charleston on one side and the agriculturists on the other. English houses alone could supply slaves, processed goods, and credit, and market large amounts of rice. After Parliament allowed direct shipment of rice to Iberian ports after 1729,[53] this reinforced developing business patterns since British firms were positioned to establish branch offices or place agents in these southern European ports. One suspects that those Charleston merchants who were building successful businesses in the 1720's and 1730's were forced to concentrate on trading and to leave shipping operations to others.

Ironically, the South Carolina Assembly, once a bulwark of support for local mercantile interests, turned against them in the 1720's. As the colony fell deeper into economic difficulties, debtors rather than creditors dominated the body. The assembly's response to the government's financial shortages was to issue ever greater quantities of paper currency. Fluctuating wildly in value, South Carolina currency was more unstable during this decade than ever again during the colonial period.[54] Since this paper money was supposed to be legal tender for debts, residents had to deal in this uncertainly valued currency or risk legal penalties. The merchants' dilemma was clear. They could transact business and chance financial ruin, or they could refuse the currency and risk jail. English merchants, however, could and did refuse to enter contractual arrangements stated in terms of South Carolina currency. If all else failed, English merchants had recourse to the Board of Trade and even Parliament for relief and protection. The currency situation was an additional liability for local merchants which restricted their trading, buying, shipping, and supporting shipbuilding enterprises.

Statistics obtained from primary sources reveal measurements of the extent of the reduction in South Carolina shipowning and shipbuilding from about 1720 until well into the 1740's. As spelled out above, in 1720 the Charleston fleet, already much reduced since 1717, consisted of twenty craft totaling 647 tons. In 1724, the port claimed only ten vessels aggregating 460 tons.[55] By the early 1720's, South Carolinians had a total investment in shipping which probably did not exceed £1,000 sterling.[56] In 1724, the fleet carried away about one-third the volume of staples the fleet had transported in the 1717-1720 era. Freighting revenues must have fallen

48. Clowse, *Charleston's Overseas Commerce*, pp. 141-42 (Table C-61), shows that nearly all of Charleston's leading investors in vessels in the 1710's were no longer shareholders by the 1730's.

49. Clowse, *Ec. Beginnings in Col. S.C.*, pp. 184-250, covered the 1715-1730 developments in some detail. This is a 'traditionalist' view that the 1720's were years of overwhelming problems. Coclanis, 'Rice Prices in the 1720s . . . ,' argued that rice planters, if no others, were making economic progress during the decade. He thought his evidence compelling enough that past interpretations should be revised.

50. Clowse, *Charleston's Overseas Commerce*, pp. 57-58 (Table B-21).

51. Ibid., p. 30 (Table A-11).

52. *Hist. Statistics of the U.S.*, pp. 1176-77 (Series Z 213-226).

53. 3 George II, c. 28.

54. To trace exchange ratios between South Carolina currency and the English pound sterling see J. J. McCusker, *Money and Exchange in Europe and America, 1600-1775: A Handbook* (Chapel Hill, 1978), pp. 220-26.

55. Clowse, *Charleston's Overseas Commerce*, pp. 115-17 (Table C-22).

56. Since most Charleston vessels of this period were small, and small craft generally were valued at less per ton than larger craft, the mean value of shipping probably did not exceed £2 sterling per ton. See n. 43. For proportions of slaves and goods transported to and from Charleston by Charleston-based craft, see Clowse, *Charleston's Overseas Commerce*, pp. 121-27 (Tables C-41, C-42, and C-43).

proportionately. Between 1720 and 1724, only four sloops may be credited to South Carolina builders though a few more sail may not have been found owing to missing records (Table 4). No large vessels were built during the five years. With a steadily declining fleet, it is probable that few craft were bought outside the colony. Figures or literary citations supporting that view are almost impossible to compile. Even the modest investment in shipping of the 1720-1724 years likely contracted further during the more troubled 1725-1729 span.

Into the 1730's, South Carolinians continued to look to investments other than shipping. The largest annual fleet between 1732 and 1738 (when naval lists allow measurement) appeared in 1736. It included nineteen craft totaling 640 tons. In all other years, fleets represented less carrying capacity. Moreover, the 1737 and 1738 fleets were significantly smaller than those of either 1735 or 1736.[57] The level of investment in shipping in the 1730's was only slightly greater than in the early 1720's. Local builders produced at most seven craft in the 1730-1733 period (Table 4). Even this figure must be questioned because the search identified a ninety-ton ship and a seventy-ton brigantine as having been constructed in South Carolina. Since the largest confirmed vessels built in the province between 1734 and 1746 were two fifty-ton brigantines, the two larger vessels may be errors. Adding the seven credited for 1730-1733 to twelve small craft found in the more trustworthy ship registrations, one may total nineteen ocean-going vessels built in South Carolina during the 1730's. These craft summed to about 500 tons. Obviously less South Carolina shipbuilding occurred in the 1730's than during the 1710's and only slightly more than in the 1720's. With local shipbuilding languishing, many of the vessels owned in the colony were obtained from other colonies.

South Carolina overseas merchants made slow progress during the 1730's in building the capital which they might have diverted to shipping. The decade has an aura of prosperity as settlements were moved deeper into the back country.[58] Total population almost doubled, rising from 30,000 to 55,000, but the number of whites advanced only from 10,000 to 15,000. The agricultural economy remained based almost entirely on rice, and its prices declined as production expanded.[59] To overcome their profit squeeze, planters opted for more slave labor. An estimated 17,000 slaves entered the colony during the decade. This was the largest number ever imported during a decade to that time. Doubling the slave population in a decade from 20,000 to 40,000 brought dire social as well as economic consequences.[60] The tar and pitch business revived after 1729, but volume and value remained small fractions of pre-1725 levels. The deerskin trade was important for a few merchants, but did not benefit most merchants or others of the white population.[61] None of numerous attempts to develop a second agricultural staple succeeded.

Until the 1740's, all evidence points to a small and financially weak South Carolina mercantile community, though exact details about its size and strength are missing. Squeezed between limited profits from trade and strong demand for growth capital, merchants avoided shipping. According to naval lists and ship registers, only about fifty South Carolinians owned shares in vessels at any one time during the 1730's. In the 1717-1720 era, the number of such investors was nearer one hundred at its peak.[62] Britishers dominated the Charleston carrying trades more than ever before. English-owned craft imported nearly all slaves and, one presumes, brought most of the processed goods from England. These vessels carried away greater shares of South Carolina's prime exports than during any other measurable period. Concomitantly, South Carolina's shares of freighting shrank with the colony's reduced vessel holdings. Charleston-based craft transported virtually no slaves in the 1730's and carried very small shares of staples.[63] South Carolina in the 1730's was not a medium where a local merchant could easily accrue

57. Clowse, *Charleston's Overseas Commerce*, pp. 115-17 (Table C-22).

58. The classic account of the spread of settlement into the back country is by R. L. Meriwether, *The Expansion of South Carolina, 1729-1765* (Kingsport, Tenn., 1940). His map on p. 2 delineates the very small area settled by 1729.

59. While the matter of prices and profitability needs far more investigation by scholars than the subject has ever received, my conclusion is based on a personal collection of unpublished commodity prices gleaned from many sources including estate inventories. Rice prices of the 1730's appear to be considerably lower than those of the 1720's. Starting with 1732, prices of rice and other exports may be followed in A. H. Cole, ed., *Wholesale Commodity Prices in the United States, 1700-1861: Statistical Supplement, Actual Wholesale Prices of Various Commodities* (Cambridge, Mass., 1938).

60. Clowse, *Charleston's Overseas Commerce*, p. 30 (Table A-11).

61. Clowse, *Charleston's Overseas Commerce*, pp. 65-87 (Table B-31 through Table B-71), has shipments of exports other than rice. Naval stores bounties were renewed, but at reduced levels of support, by 2 George II, c. 35.

62. Conclusion based on findings from unpublished tabulations extracted from Charleston naval lists.

63. Clowse, *Charleston's Overseas Commerce*, pp. 121-27 (Tables C-41, C-42, and C-43).

capital which would encourage him to diversify into shipping ventures.

Sometime in the early 1740's the colony's mercantile environment underwent a rather drastic shift resulting from several causes. The volume of South Carolina vessel registrations alone gives a signal. In the eleven years from 1743 through 1753, 216 craft were registered initially or reregistered. These entries amounted to over 8,800 tons (Table 1). About 85 percent of this tonnage was based in Charleston despite the fact that Georgetown and Beaufort shipping first began to appear among the registrations. Since the naval lists are missing from 1738 to 1758, one must guess at the dimensions of the province's merchant marine during the gap.[64] Interpolating, one may assume that by 1750 the growing fleet consisted of twenty or twenty-five craft totaling in the range of 1,500 to 2,000 tons. This estimate conforms to Gov. James Glen's impressionistic assessment in 1751 that the colony possessed about 1,600 tons of shipping.[65] South Carolinians had committed £4,000 to £6,000 sterling to their fleet by the early 1750's.[66] This capital outlay may have exceeded that which merchant-investors put in vessels in the late 1710's, the previous monetary peak.

During the 1740's, South Carolina experienced some painful economic readjustments which were enabling the local mercantile community to reorganize their business priorities. While later researchers will have to demonstrate exact effects of these developments, the impact of a reduced slave trade is clear. As a direct result of the Stono Rebellion in 1739, the assembly suspended almost all slave importing for a decade. Fewer than 2,000 new slaves were landed between 1740 and 1750. Total population did advance from 55,000 to 65,000, a much smaller absolute increase than for most decades in the mid-eighteenth century.[67] Failure to augment the labor force may have been a factor in lowered production of staples. Besides limiting agricultural expansion, legal restraints on slaving affected investment patterns.[68] Capital normally tied up in slave transactions could now be diverted to other enterprises such as shipping. The temporary moratorium on importing slaves also worked to curb the business influence of English merchants who dominated the Middle Passage from Africa.

In fact, British merchants faced adverse trading conditions throughout much of the 1740's. The empire's commerce grew much more slowly than in the immediate past. The main cause of this depression was the War of the Austrian Succession (King George's War in the colonies), 1739-1748. During the war, British industry suffered alternating gluts and shortages of goods depending on the ability of merchants to sell and deliver products overseas. Growing pains associated with ever-increasing industrialization may also have played a part in the economic instability.[69] The war on the high seas drained money from British merchants as losses of merchant vessels were heavy.[70] A shortage of topsails drove up the cost of all craft and made prizes of war attractive purchases. To overcome net losses of tonnage, increased shipbuilding was the only answer. British and American shipyards bustled. Since ships built of live oak in the southern American colonies were now being recognized as being equal in quality to the best craft being fabricated in British domains, the shipbuilding industry in both northern and southern colonies benefitted. Governor Glen hinted in his 1751 letter that a shortage of skilled shipwrights inhibited a much greater spurt in shipbuilding in South Carolina than actually occurred.[71]

The war hit South Carolina particularly hard because its staples were largely destined for continental markets. In some periods, vessels could not sail safely to Europe, and rice shipments were delayed. At other times, European ports were closed to British craft.[72] As a consequence of unpredictable business conditions, rice prices fluctuated wildly during much of the 1740's, but tended to be lower than they had been during the

64. A few Charleston naval lists survive from 1752 and 1753, but these fragments are too incomplete to measure fleet size.

65. Gov. James Glen to Lords of Trade, March 1751. Records in Br. PRO Relating to S.C., XIV, pp. 303-30. This important contemporary assessment has been published in several collections including H. R. Merrens, ed., *The Colonial South Carolina Scene: Contemporary Views, 1697-1774* (Columbia, 1974), pp. 177-91.

66. Shipping value arbitrarily set at £3 to £4 sterling per ton. See n. 43.

67. Clowse, *Charleston's Overseas Commerce*, p. 30 (Table A-11).

68. Little has been published concerning the absolute and comparative values of various segments of South Carolina's import commerce. Based on unpublished trial balances of trade, slaves from Africa probably constituted 20 percent of total imported value during the 1730's and less than 3 percent in the 1740's.

69. P. Deane and W. A. Cole, *British Economic Growth, 1688-1959: Trends and Structure* (2nd ed., Cambridge, Eng., 1967), pp. 46-62.

70. Davis, *Rise of English Shipping*, pp. 68, 317. This authority concluded that Great Britain lost about 3,000 vessels and captured 1,500 during the 1739-1748 period.

71. Gov. James Glen to Lords of Trade, March 1751. Records in Br. PRO Relating to S.C., XIV, 303-30.

72. A South Carolina merchant's view of the war may be followed in W. B. Edgar, ed., *The Letterbook of Robert Pringle* (Columbia, 1972), 2 vols. Pringle's outgoing correspondence for the years 1737-1745 have many commentaries on events. For a comprehensive examination of South Carolina commerce during the 1740's, see S. O. Stumpf, 'Implications of King George's War for the Charleston Mercantile Community,' *The South Carolina Historical Magazine*, 77 (1976), 161-88.

1730's.[73] Rice exports for the 1740's actually fell below the level of the previous decade.[74] Assuming that exports are an accurate reflection of output, growers may have actually reduced acreage under cultivation. Production of rice was less in the 1746-1750 years than it had been in 1741-1745. Importing of English goods was negatively affected as a result of declines in exports of the main staple. The volume and value of goods imported from England during the 1740's was not much greater than during the 1730's.[75] Worth of imports may have held up as well as it did only because of the region's increasing population. By any standard, the 1740's was a decade when South Carolina's merchants were forced to evaluate constantly their shifting investment opportunities as overseas trade stagnated and may have actually declined versus the previous decade.

An enterprising, aggressive, and seasoned South Carolina mercantile community was well positioned when business circumstances played into their hands. The number of merchants had been increasing slowly since the adversities of the 1720's. Over time, some agents or factors of English mercantile houses became permanent rather than temporary residents. Some agents gradually evolved to emphasize trading for their own accounts. Most merchants filled any role which brought profits thus blurring occupational distinctions among factors, agents, and traders. A few of these immigrants establishing permanent South Carolina operations arrived in the 1720's and 1730's, but far more did so in the 1740's and thereafter.

An analysis of the South Carolina investors in shipping shows that at least thirty of the forty-nine largest shareholders, 1734-1774, initially purchased a share in a vessel during the 1740's. Although tracing the origins of these men is beyond the scope of this study, many were born elsewhere; but some prominent merchants were natives including Benjamin Smith, Miles Brewton, Gabriel Manigault, and, perhaps best known of all, Henry Laurens. After serving his apprenticeship in England, Laurens opened his business in Charleston in the mid-1740's and made his first investment in a vessel in 1757.[76] These forty-nine major investors are only the top rank of about a thousand South Carolinians who bought at least one share in one vessel, 1734-1774. An investment group of this size testifies both to the permanent attractions of South Carolina commerce and the mobility of the mercantile community of any colonial port.[77]

These South Carolina merchant-investors obtained craft from three sources in the 1740's and early 1750's. They purchased in other ports at least thirty-two older vessels aggregating about 1,500 tons, 1743-1753 (Tables 2 and 3). Nearly all these sail had been built in the northerly colonies (Table 3). Since a number of these bottoms were registered within a year of being built, this is circumstantial evidence that South Carolinians sometimes purchased new craft from speculative builders in New England and elsewhere or had shipping built under contract in northern ports. A few of these vessels were ships, but the vast majority were schooners or other smaller vessels typically employed in the coasting trades. The number of such purchases of used craft was higher than any other span except for the 1762-1774 years (Table 3).

Some investors also turned to South Carolina shipbuilders. From 1743 through 1753, 115 new vessels aggregating almost 3,700 tons were registered in South Carolina (Table 4). These figures delineate real growth for the shipbuilding industry. The statistics also represent the first hint of a trend—however slight—toward building larger craft. Over the eight consecutive years of greatest production, 1746-1753, four ships, seven snows, and eight brigs were constructed. These amounted to 1,640 tons and had a mean size of about 86 tons, large vessels by South Carolina standards. As noted earlier, a ship launched in 1746 may have been the first of that class built in the colony since 1718 (Table 4). Without naval lists to follow the clearances and entrances of these new vessels, one can only assume that

73. According to Cole, *Wholesale Commodity Prices*, pp. 15-31, rice prices finally rose in 1748 or 1749 to equal or exceed 1737-1738 prices.

74. Clowse, *Charleston's Overseas Commerce*, pp. 57-58 (Table B-21).

75. This conclusion rests on unpublished analyses of South Carolina importing. *Hist. Statistics of the U.S.*, pp. 1176-77 (Series Z 213-226), indicates that the official value of goods shipped from England to Carolina for the 1740's was only slightly more than during the 1730's. As mentioned previously, the slave trade was practically shut down during the 1740's (see n. 68). Moreover, commerce between South Carolina and both the northerly colonies and the West Indies does not appear to have grown dramatically. From this fragmentary and incomplete evidence, it seems possible to project that South Carolina's total import value grew slightly; however, it is conceivable that imported value during the 1740's was actually slightly less than during the 1730's, possibly the only two consecutive decades in the colonial era when this was true.

76. Henry Laurens' mercantile correspondence, which commences in 1746, forms the most extensive body of such writings surviving from colonial South Carolina. This collection is being published, P. M. Hamer, G. C. Rogers, Jr., D. R. Chesnutt et al., eds., *The Papers of Henry Laurens* (Columbia, 1968-), 8 vols. to date.

77. Statistics in this paragraph pertaining to shareholders in vessels have been extracted from the South Carolina ship registers. These compilations are unpublished.

most were retained as additions or replacements of older vessels to the South Carolina merchant marine. This new construction represented a minimum of £15,000, and possibly more than £20,000, sterling.[78] Nearly all were registered by local men.[79] So, one must believe that South Carolina merchants were the primary underwriters. Shipbuilding had assumed greater importance than ever before in the colony's history.

Investors moved to take advantage of the fact that prizes of war were available from vice admiralty courts. The 1742-1748 era may have been the first time when local men engaged in this business. Scanty and incomplete records from two earlier periods of war, 1689-1697 and 1701-1714, contain few hints that South Carolinians bought prizes. One suspects that, once more, lack of capital prevented such enterprises. By the 1740's, the Charleston Vice Admiralty Court was a convenient mart and some vessels were obtained from vice admiralty courts at Bermuda, New Providence and elsewhere. With few bidders present, many craft put up for sale after condemnation proceedings probably sold for bargain prices. One also wonders if interested purchasers might not have agreed prior to the sale about upper limits of bids. Such speculations are not provable, but the practice is not unknown in any era.

From 1742 through 1748, South Carolina merchants, often in combines of six or eight men, registered thirty-seven prizes aggregating over 2,700 tons (Table 3). If Britishers were supplying the capital, they were doing so through local men. The £9,000 to £12,000 sterling being shifted into and out of prizes was another index of the growing wealth and sophistication of the mercantile community.[80] These acquisitions were likely viewed as temporary, bargains which offered quick profits. Charleston naval lists, which parallel South Carolina ship registrations throughout much of the Seven Years War, 1756-1763, indicate that most prizes were laden with staples and sailed from the port never to return.[81] At least such vessels can seldom be identified on later naval lists.

To flesh out fully shipping transactions during the 1740's and early 1750's may prove impossible, but South Carolina merchants found the buying and selling of vessels more attractive than previously. Taking into account the several types of investment choices, these investors may have been shunting £15,000 to £20,000 sterling into and out of shipping during peak years of activity.[82] While such estimates smack of unsubstantiated speculations, the reasons shipping was a magnet for capital are obvious. With normal business relationships disrupted, and their English competitors temporarily at a disadvantage, local merchants sought new investments. Shipping was an alternative offering higher returns than usual at a time returns from commodity trading were more uncertain than normal. One assumes that South Carolinians also regained shares of the carrying trades to and from the colony as a result of increasing their fleet. When commerce resumed its pre-1740 patterns, South Carolina merchants had a position in the business arrangements of the home market that they never again completely relinquished to the English mercantile houses.

It should also be noted that Scottish merchants, for the first time, entered the South Carolina market in some numbers in the mid and late 1740's. Edging into colonial trades generally, the Scots may have sensed special opportunities opening in South Carolina as a consequence of the disordered English trading networks. Both English and South Carolina merchants had to reckon with the Scots until the end of the colonial era. However, according to commercial statistics, the Scots did not make the inroads in South Carolina staple trading that they accomplished in the Chesapeake tobacco trade.[83]

78. Since a number of large vessels were built during this period, mean cost per ton was probably higher than in the immediate past. Therefore, worth per ton is estimated to have been in the range of £4 to £5 sterling. See n. 43.

79. The ship registers, 1748-1752, show Britishers registering six larger South Carolina-built craft which were new or only a year or two old. These unpublished compilations of shareholders indicate Britishers were investing more in South Carolina shipbuilding than previously.

80. Estimated mean cost per ton of prizes placed in the low range of £3 to £4. Most prizes were of foreign construction, and some were types not popular among British and American owners. Since all had been captured, some may have suffered damages.

81. The strongest circumstantial evidence of this contention is found in the 1766 Charleston naval lists. In this year, South Carolinians owned only one snow and four sloops designated as foreign-built. See Clowse, *Charleston's Overseas Commerce*, pp. 115-17 (Table C-22).

82. Since researchers have no way to fix South Carolina's exact vessel holdings at any moment, estimates of investments must be impressionistic. Moreover, the number of craft and tonnage based in the colony may not be an accurate reflection of South Carolinians' investments. A number of shareholders in South Carolina-owned craft were Britishers and Americans residing in other colonies.

83. Unpublished analyses of shareholders in vessels derived from Charleston naval lists, 1717-1739, show few Scottish vessels participating in the colony's commerce. Official records of Scotland's trade were kept starting in 1740. For an evaluation of Scottish customs records and trade between Scotland and the individual American colonies, see J. M. Price, 'New Time Series for Scotland's and Britain's Trade with the Thirteen Colonies and States, 1740 to 1791,' *The William and Mary Quarterly*, Third Series, 32 (1975), 307-25. These official figures indicate little trade between South Carolina and Scotland after 1740 in contrast to Scotland's expanding import-export trades with the Chesapeake colonies.

The War of the Austrian Succession wound down to its inconclusive ending, and the British Empire entered a time of uninterrupted economic prosperity. This period is usually dated as starting about 1745 or a little later to about 1760. Renewal of unrestricted international trade was a factor in this recovery from which South Carolina benefitted. A more important ingredient in the general upturn of British commerce was the accelerating demand for, and consumption of, British manufactured goods. The colonies provided much of the demand. South Carolina is an outstanding example of dramatic increases in imports from Great Britain, particularly after 1750.[84] The general boom slowed somewhat after 1760 and some economic historians conclude that English industry stagnated until after the American Revolution. However, any weakness in the English economy was not reflected in South Carolina's import values and volumes from the mother country.[85] The various embargoes of British goods, the first coming in 1765, had some transitory effect. These periods of restricted trading were followed by surges in importing which more than made up temporary deficits.

Expanding staple-crop exports and a growing population explain the demand for the steadily increasing flow of imports into South Carolina. Rice exports, which had actually declined in the 1740's, swelled dramatically in the early 1750's. Shipments continued to grow at an irregular rate into the 1770's.[86] Prices and profits remained strong during the 1750-1775 span.[87] Though experimentation with indigo succeeded in the 1740's, South Carolinians did not ship appreciable quantities of dyestuff until well after Parliament passed a bounty law.[88] Indigo became important to the economy when the crops of 1754 and 1755 were harvested and exported, and it remained a staple until the Revolution.[89] The hiatus in slave trading ended, and planters rushed to fill their labor needs. About 18,000 blacks were brought into the province during the 1750's, ten times as many as during the 1740's. Total population advanced from 65,000 in 1750 to almost 100,000 by 1760.[90] This was one of the greatest ten-year percentage increases in the late colonial era.

South Carolina merchant-investors reduced the amounts of capital they were reserving for shipping in the early 1750's. The best investment alternative under the circumstances in the 1740's, shipping could not match profits in the colony's agriculture. One must assume that capital was shifted to finance, directly and indirectly, this aspect of the economy. The year 1753 may have been the watershed if shipping transactions are a valid index. In 1754-1756, only twenty-eight ship registrations representing 1,067 tons were recorded in South Carolina versus forty-eight registrations summing to 1,848 tons, 1751-1753. Between 1754 and 1763, registrations fell to approximately two-thirds of the level of the previous ten years (Table 1). Analysis of the data reveals other dimensions of the fading commitments to shipping among South Carolinians.

The South Carolina merchant fleet probably remained fairly stable in numbers and carrying capacity from the late 1740's to the late 1750's. Unfortunately, it is impossible to make a cross-sectional measurement of a single year until 1758. The naval lists show the Charleston fleet then consisted of twenty vessels totaling 1,420 tons. These holdings were apparently no greater than Governor Glen had reported to British authorities in 1751. After 1758 the fleet increased at an irregular rate: thirty-two craft aggregating 1,494 tons in 1759; thirty-nine and 2,417 in 1760; forty and 1,821 in 1762; forty-six and 2,470 in 1763; and fifty-one vessels totaling 2,734 tons in 1766.[91] Prizes of war and vessels condemned for illegal trade were bought and sold in the port, 1757-1764 (Table 3). These temporary acquisitions inflated all figures but those of 1766 which are, then, the most significant of the series. It should also be recalled that a small, but indeterminate, number of vessels were owned in Georgetown and Beaufort, though such vessels were seldom found on Charleston naval lists.

A large proportion of the craft added to South Carolina holdings in the late 1750's and 1760's were small and older. Over the 1754-1763 span, local investors bought from outsiders an estimated forty-four craft totaling about 1,800 tons (Tables 2 and 3).[92] These purchases were modest in numbers and value considering the

84. Egnal, 'Economic Development of the Colonies,' p. 204, concluded that the demands of colonial markets for manufactured goods caused British industries to expand rapidly in the 1745-1760 era.

85. *Hist. Statistics of the U.S.*, pp. 1176-77 (Series Z 213-226), shows that official yearly import values were still increasing rapidly in the 1760's and 1770's.

86. Clowse, *Charleston's Overseas Commerce*, pp. 57-58 (Table B-21).

87. Cole, *Wholesale Commodity Prices*, pp. 15-31. Prices remained high after 1750 with few periods of weakness. Presumably profits grew proportionally.

88. 21 George II, c. 30.

89. Clowse, *Charleston's Overseas Commerce*, pp. 70-71 (Table B-41).

90. Ibid., p. 30 (Table A-11).

91. Ibid., pp. 115-17 (Table C-22).

92. These totals exclude purchases of prizes of war and vessels condemned for illegal trade.

burgeoning economy. Vessels acquired on the open market clearly exceeded the numbers and tonnage purchased in the previous ten years, 1744-1753. A decline in mean size of 1754-1763 purchases traces to small craft from the West Indies (Table 3). It was an area where sloops and schooners carried much of the local commerce. This trend toward obtaining vessels in the West Indies coincides with a change in Charleston's trade pattern. Over the last two decades of the colonial era volume and value of commerce between the West Indies and Charleston doubled while trading to the northerly colonies declined sharply.[93] This situation suggests that where trading in commodities occurred, merchants were also likely to trade vessels.

After a brief and uneasy peace, war officially began again in 1756, bringing prizes of war and vessels sold for illegal trade back to the secondhand market. From 1757 through 1764, South Carolinians registered at least nineteen aggregating about 1,700 tons (Table 3). It is possible that they bought others in other ports which would not be in South Carolina records. Of the known purchases, many had capacities comparable to craft employed in South Carolina's transatlantic commerce, but most were soon resold.[94] One can offer several reasons for quick disposition of prizes. Some foreign-built merchantmen were architecturally inappropriate for stowing rice barrels. Some may have had drafts too deep for the shoaly Carolina coastal waters. Most likely, purchasers who bought such craft at favorable prices realized maximum profits by prompt resales. Since the South Carolina economy was generating considerable capital by the late 1750's, the diversion of £8,000 to £10,000 sterling into transactions involving prizes of war is not surprising.[95] Such a level of spending was insufficient to be the chief reason for the decline of local shipbuilding over the war period.

South Carolina's shipbuilding industry, which had seemed ready to expand in the 1740's, was a casualty of many forces in the 1750's. The colony's agricultural resurgence, the general expansion of the empire's trade, and the efficiency of the Royal Navy during the Seven Years War, all contributed. As South Carolina patrons of local shipbuilders curtailed purchases, neither Britishers nor colonials from other ports came forward to support local shipyards.

South Carolina authorities did offer half-hearted official support to sustain progress in developing the colony's shipbuilding industry. In 1751, in a cryptic passage buried in a tax and appropriations law, a fifth part of revenue raised from an increased impost on imported slaves was 'to be given for the building of ships in this Province, and as an encouragement to ship-wrights and caulkers to become settlers.'[96] Over the next several years funds accrued to a total of several thousand pounds. In 1754, the money retained was allotted to benefit 'poor Protestants' who had settled and to other purposes, 'no application having ever been made to the General Assembly for any part' reserved for payments to newly arrived shipwrights and caulkers.[97] This attempt to promote construction by recruiting skilled labor probably failed more completely than the tonnage subsidies tried in the 1710's and early 1720's.

The Seven Years' War compounded the difficulties faced by South Carolina shipbuilders. The Royal Navy had been strengthened and was more competent than during the last war. Far more enemy vessels were captured than British and colonial craft lost. Prizes taken increased total tonnage of the empire's merchant marine and kept both British and American dockyards working far below maximum capacities.[98]

Shipbuilding statistics bespeak the relationship between an abundance of used, especially large, vessels in British hands and the doldrums of the South Carolina industry. Over the 1754-1763 years, fifty bottoms summing to 1,617 tons were launched in the colony. Tonnage was less than half that of the prior ten years (Table 4). Of the 1754-1763 production, thirty-eight of the fifty were schooners. Only four ships were constructed. The nadir of local shipbuilders came between 1757 and 1761. During these five years, only seventeen small sail totaling 339 tons were registered (Table 4). Over the same years, South Carolinians registered thirty-two secondhand craft. They summed to almost 2,200 tons (Table 3).

As the last colonial years passed, South Carolina's staple crop agricultural system yielded wealth as never

93. This conclusion based on unpublished trial balances of trade. See Clowse, *Charleston's Overseas Commerce*, pp. 97-106 (Table C-11), which demonstrates the absolute declines of sailing and tonnage between Charleston and the northerly colonies and concurrent increases in sailings and tonnage between Charleston and the West Indies, 1717-1772.

94. Every prize of war detected in the South Carolina Ship Registers, 1757-1763, was traced in the Charleston naval lists if possible. Most of these vessels made only one clearance and no subsequent entrance at Charleston. See n. 81.

95. Estimated range. It is difficult, if not impossible, to determine the number and value of prizes held by South Carolina investors at any one time.

96. Cooper and McCord, eds., *Statutes of S. C.*, III, 742.

97. Ibid., IV, 11.

98. Davis, *Rise of English Shipping*, pp. 68-69, 317.

before. The elite planters and the leading overseas merchants, by this time styled 'the gentry' by social historians, enjoyed an affluent life-style. A few simple statistics set forth the province's phenomenal growth rate over the fifteen years before independence. Total population reached 155,000 or more by 1775. This was an increase since 1760 of some 50,000, equally divided between whites and blacks. Between 35,000 and 40,000 new slaves were imported over the span.[99] Since this figure was more than the colony's net increase of black population, many slaves coming into Charleston were delivered ultimately in nearby colonies. The reexport of slaves was an indicator of the rise of Charleston as a regional distribution center for imports. Rice and indigo volume grew. Other exports such as deerskins, lumber, and various other forest products also contributed to a booming economy.[100] Nevertheless, the value of imports far outstripped the value of exports. The colony's balance of trade may never have been more unfavorable.[101] The long-term prospects were so favorable, however, that South Carolina's prosperity was never checked by a credit squeeze.

Weighing their investment possibilities, South Carolina merchants sank more money in vessels than ever before. Although the conclusion rests on more circumstantial evidence than one would wish, the pattern is discernible in the sources. The 1766 fleet, the last yearly one which may be measured, carried the greatest shares of Charleston's prime exports, and presumably of imports, for any year since before 1720.[102] The wake of this expanding fleet is very slight in surviving records from 1766 to 1776. Nevertheless the sheer volume of registrations suggests direction. Between 1764 and 1774, 269 craft totaling about 11,000 tons were registered to South Carolinians. These totals represent over half the registrations, almost half the tonnage involving South Carolina interests found in the registers over the entire 1734-1774 term (Table 1). Therefore, South Carolinians could easily have owned sixty or seventy craft totaling 4,000 to 5,000 tons by the early 1770's, investments reaching £20,000 to £25,000 sterling.[103]

99. Clowse, *Charleston's Overseas Commerce*, p. 30 (Table A-11).

100. Ibid., pp. 54-87 (Tables B-11 through B-71).

101. Conclusion based on unpublished trial balances of trade.

102. Clowse, *Charleston's Overseas Commerce*, pp. 124-26 (Table C-42).

103. Estimated mean price per ton of shipping in the range of £5 to £6. Presumably worth per ton would have been somewhat greater in this period than earlier because of the strong demand for shipping and the number of larger craft owned. See n. 43.

Although exact dimensions of this fleet may never be determined, the province doubtless had its largest merchant marine at the very end of the colonial period. By increasing their vessel holdings, South Carolina merchants maintained, and perhaps added to, shares of the carrying trades.

Considerably fewer than half of the vessels and tonnage incorporated into the South Carolina fleet after 1763 came from purchases of older craft. After carefully eliminating reregistrations of vessels probably owned previously in the province, one estimates that about eighty-five older craft totaling over 3,700 tons were bought by South Carolinians from outside sources, 1764-1774 (Tables 2 and 3). The mean sizes of these purchases was approximately forty-five tons. About one-fourth of these vessels were built, but not necessarily bought, in the West Indies. One-third came from New England sellers. The balance were obtained from a variety of places, including almost every other mainland colony (Table 3). Two larger vessels were English-built. It is not clear why shipowners bought older craft, but sometimes they may have had no alternative except to buy tonnage when cargo space either was at a premium or could not be hired at any price. Certainly building a vessel was not an option when a freighter was needed at once. An older craft with some of its useful service past, required a smaller monetary outlay and met the short-term objective of providing shipping capacity immediately.

As demand gradually caught up with supply in the years immediately after the Seven Years War, shipbuilding revived in British domains. As a trading resurgence speeded up in the late 1760's and early 1770's, shortages of tonnage may have resulted. More construction took place in the mainland American colonies than ever before. Whereas the industry had once been centered in the northerly colonies, important shipworks were started from Chesapeake Bay southward. Despite relatively high labor outlays, southern shipyards had the advantage of low costs for raw materials including the crucial live oak timbers. As the supply of English oak dwindled in the eighteenth century, prices of English vessels rose and shipbuilders faced material costs they could not offset with their cheaper labor.[104]

104. J. A. Goldenberg, *Shipbuilding in Colonial America* (Charlottesville, 1976), pp. 117-22; Albion, *Forests and Sea Power*, pp. 246-47; G. J. Marcus, *Heart of Oak: A survey of British Sea Power in the Georgian Age* (London, 1975), pp. 11-13.

Favorable evaluations of vessels built in the southern colonies attracted few outside investors. South Carolina merchants continued to be the chief patrons of South Carolina shipbuilders. Much of the new construction went to fill demands for additional carrying capacity, though some local investors must have built vessels as speculations. Unfortunately, the lack of complete records makes it impossible to determine what happened to new vessels after initial registration. Late in the 1760's, for the first time a handful of British investors were drawn to the colony's shipbuilders.[105] Their investments were concentrated within a very few years, however.

Based on annual production, 1762 was the year when South Carolina shipbuilding revived at the end of the depressed 1757-1761 period. It was 1764, however, before launched tonnage increased sharply. From 1764 through 1774, ninety-six craft totaling 4,934 tons were built and registered. This constitutes close to half of all confirmed tonnage constructed in South Carolina between 1712 through 1774. Total capacity fabricated was two and a half times as great as during the previous eleven years, 1753-1763. The three most productive consecutive years were 1764-1766. Builders guided forty-three craft totaling 1,892 tons into the water. After 1766, annual mean tonnage of new craft shrank to about 380 tons between 1767 and 1774. This compared with a 630-ton mean, 1764-1766. The 1767-1774 output was about the same as that of the 1743-1753 era when South Carolina shipbuilding seemed to be starting permanent growth (Table 4).

The 1762-1774 era did have a difference of productive emphasis which warrants exposition. South Carolina builders shifted towards larger vessel types, particularly to ships. This investigation could confirm beyond question only six ships built in the colony prior to 1762. Over the 1762-1774 span, South Carolina shipyards built seventeen ships aggregating 3,190 tons. There were also one snow and eleven brigantines.[106] Larger vessel types account for over 70 percent of all new tonnage registered in the period (Table 4). Constructing twenty-nine such craft in thirteen years would not have caused an economic ripple in most colonies and probably caused only minor vibrations in South Carolina. Nevertheless, the trend held promise for future developments, and these vessels represented a significant attainment in the South Carolina context.

Considering evidence in sources other than ship registers and naval lists, South Carolina entrepreneurs did not take full advantage of the possibilities of the time for building and selling ships. In the past South Carolina lacked shipwrights and other craftsmen. These shortages of skilled workers persisted in the 1760's. Some older shipbuilders were long-time residents and familiar with fabricating small vessels. Some were doubtless not sufficiently able managers of larger projects to make the transition from constructing twenty-ton schooners to two-hundred-ton ships. It has been pointed out elsewhere, for example, that at the time the shift toward ships commenced in 1763 Henry Laurens contracted for a large vessel to be built in England because he distrusted the capabilities of South Carolina builders. Literary sources show that South Carolina promoters engaged in a campaign to recruit shipbuilders in other colonies and in England. These efforts enticed several shipwrights to relocate in the province.[107] One must wonder if perhaps the limited building of ships, indeed a decline after 1766, might not be traced to a continuing insufficiency of skilled labor rather than to either a shortage of capital or lack of interest among potential buyers.

Focusing on the number of ships constructed should not overshadow the fact that many South Carolina builders continued to turn out many smaller vessels. The number of registrations of all types of South Carolina-built craft seemingly increased dramatically after 1762 (Table 1). In fact, many of these registrations resulted from a tightening of enforcement procedures pertaining to small craft in coastal trades. A 1762 South Carolina law specified that bottoms 'capable of carrying six tons' be bonded to 'not depart this Province in order to go to any port out of same, without first clearing in the usual manner.' Vessels entering from other colonies must also make legal depositions at the proper offices.[108] Despite the initial registration of a number of older vessels to comply with the law, the allocation of each vessel by year built shows a pattern of persistent interest in schooner building after 1762 (Table 4).

From 1762 through 1774, eighty-one new schooners were launched. In 1762-1763, eleven were registered; in the 1764-1766 span, thirty-five or a mean of almost twelve per year were built. In the following eight years, 1767-1774, thirty-five more were registered as newly

105. Though proof may never be uncovered, this may be the first period when British investors contracted to have ships built in South Carolina.

106. Goldenberg, *Shipbuilding in Col. Amer.*, p. 121, centered his attention on ships and failed to mention the snow and brigs being constructed.

107. Ibid., pp. 121-22.

108. Cooper and McCord, eds., *Statutes of S. C.*, IV, 174.

built or a mean between four and five per year. The 1764-1766 mean output was almost double the six or seven being constructed and registered annually during the most active period earlier, 1746-1753. Based on registrations, the annual mean for 1767-1774 schooner launchings had, therefore, fallen considerably below even the 1746-1753 level. Indeed, the gap may have been wider than appears if a greater proportion of all newly constructed schooners was being registered in 1767-1774 versus 1746-1753. The statistics appear strong enough to justify the conclusion that schooner building peaked in the 1764-1766 years, the same time constructing ships did (Table 4).

If British buyers showed interest in South Carolina-built ships in the 1760's and 1770's, they did not buy many smaller craft from the colony's builders. Almost no schooners were bought by English merchants during the colonial era, and only one newly built schooner in the 1764-1774 span had an English shareholder. Of the one snow and eleven brigantines constructed 1762-1774, only the one-hundred-ton snow, with a rated capacity equal to the small ships being built, involved English shareholders upon initial registration. Rather interestingly, during the 1746-1753 era when South Carolina production of snows and brigantines was greater, two were registered directly to English investors.[109]

The total value of registered vessels constructed in South Carolina, 1764-1774, probably ranged from £30,000 to £35,000 sterling. New ships accounted for £25,000 to £30,000 of the total.[110] Since the building of ships at this time has received some attention from historians, the underwriters of this construction are important. South Carolinians apparently provided approximately two-thirds of the total expended for ships and nearly all capital for smaller vessels; Britishers supplied the balance. In monetary terms, South Carolina investments in all vessel types was in the range of £20,000 to £25,000; British investments were in the range of £5,000 to £10,000. The infusion of British monies may be much greater than can be demonstrated, however. South Carolina merchants often served as conduits or middlemen, thus hiding, sometimes deliberately for business reasons, British principals.[111]

109. The 120-ton snow, *Constantia of Kingston on Hull*, was registered 6 February 1750, and the 90-ton snow, *Cecilia of London* on 12 March 1752.

110. Estimated mean price per ton of shipping placed in the range of £5 to £6 in this era. See n. 43.

111. See Goldenberg, *Shipbuilding in Col. Amer.*, pp. 42-43, 82-84, for observations on this way of doing business.

British capital was more important to South Carolina shipbuilding in the 1767-1774 period than during the 1762-1766 span although the investment was never great enough to reshape the industry. Of the seventeen ships and one snow built 1762-1774, all ranged from 100 to 280 rated tons and were of capacities required to make overseas runs. Five were registered initially by South Carolina residents; eleven were owned by combines or groups of shareholders consisting of South Carolina and British partners; two were held exclusively by British investors. No Americans from other colonies appeared among the shareholders. In the 1762-1766 years, four craft were registered by South Carolinians. The other four were held by combines consisting of English and South Carolina residents. In the 1767-1774 span, one large craft was registered to a single South Carolinian; six to groups of English and South Carolinians; one to English merchants; one built in 1773 to Scottish and South Carolina interests; one built in 1773 to Scots; and one constructed in 1774 to Englishmen.[112]

Allocating investments to Britishers and South Carolinians, the sources of support for South Carolina builders of ships come into clearer perspective. In the 1762-1766 subperiod, the British portion of capitalization was not much more than £500 sterling per year as a mean; South Carolinians were advancing between £1,500 and £1,750 annually. During the 1767-1774 years, British investment was elevated slightly to about £750 sterling per year, and a considerable portion of their total was spent in 1773 and 1774. If the Scots' investment—which started at this time—is excluded, English commitments to South Carolina shipbuilding in 1767-1774 declined versus 1762-1766. South Carolinians were also sharply curtailing their outlays in new shipping by 1767-1774. During these last years, local men were spending in the range of £1,000 to £1,250 on new ships. All sums mentioned are very small considering the volume and value of South Carolina commerce in the 1760's and 1770's. Without doubt, British capital kept South Carolina shipbuilding from declining back to the depressed situation of the 1757-1761 era.

A correlation between the downturn in South Carolinians' contribution to shipbuilding after 1766 and an upturn in the colony's agriculture is obvious. While most of the trends have been outlined already, a few statistics amplify. Rice shipments advanced 20 percent and indigo

112. In the preceding two paragraphs, owners of vessels were assumed to hold proportional shares. Tonnage was then credited to individuals and to ports. Conclusions were based on unpublished compilations.

shipments about 50 percent from the early 1760's to the early 1770's.[113] Tonnage being built in the colony 1762-1766 versus 1767-1774 fell by 40 percent (Table 4). Over 25,000 slaves were landed 1769 through 1774. They made up roughly one-fourth of all imported during the colonial period. The 7,845 arriving in 1773 were the greatest number brought to South Carolina in a single year.[114] Imports from England continued to increase.[115] Political strains between American colonies and England did not permanently impede commerce. South Carolina's merchant-investors followed acquisitive instincts honed by decades of experience which pointed toward trading and away from shipping speculations. Their perceptions of shipping were unaltered from the pattern discernible throughout much of the colonial years.

* * * * *

South Carolina's mercantile community retained an ambivalent attitude toward investing in shipping for sound reasons. Their dependence on freighters owned by others left them vulnerable, but merchants were confident that the colony's bulky staples had so much demand in Europe that British carriers would flock to the South Carolina coast. Indeed, year after year British vessels arrived at Charleston in ballast or lightly laden since a full hold of staples on the return trip guaranteed a profit for the venture.[116] Transporting goods to and from South Carolina was essential for British merchants maintaining position in this profitable market. Therefore, local merchants could confine their investments to craft which could be used effectively in their own trading. The needs of a constantly expanding population and a vigorous economy producing ever more export bulk and value gave South Carolina merchants only temporary motivations to invest in shipping. As soon as trading resumed its usual opportunities, they abandoned any passing interest in shipowning.

As the colonial era drew to its conclusion, the local mercantile community was actually spending a declining percentage of its resources on shipping. When historians analyze South Carolina's social structure through processing probate records, they will doubtless discover that merchants invested far more in land and slaves than in shipping enterprises. They will also confirm, what ship registers indicate, that very little capital generated in planting was shifted to vessels.[117] As this study revealed, the number of vessels and tonnage owned in the colony were greatest at the end of the colonial years. However, the total economy was growing at a much greater pace than investments in vessels.

Despite mixed feelings about shipowning, South Carolina merchant-investors were shareholders in at least six hundred craft placed in overseas commerce during the colonial era. While most of the fifty to seventy-five larger vessels were owned in combination with English shareholders, perhaps a third were owned exclusively by residents of the colony.[118] Nearly all smaller vessels were owned by South Carolina interests though occasionally combines included shareholders from other ports. At this stage of research, patterns of intercolonial ownership derive mainly from this researcher's estimates, but sources could yield bases for a more precise evaluation.[119]

Over half of all tonnage owned in the colony consisted of used or secondhand vessels bought from outsiders. In the early years, owners commonly obtained New England-built craft or craft built in other northerly ports. Late in the colonial era, surprisingly large numbers of South Carolina-owned craft had been constructed in Bermuda and the West Indies. Most of the New World sail were small, less than fifty tons rated size. The median probably fell between twenty and thirty tons. Nearly all British-built vessels ever owned in the colony were ships or other larger types (Table 3).

Close to half of all registered vessels based in colonial South Carolina (but less than half the tonnage) were built locally. Charleston naval lists and South Carolina ship registers contain information that will substantiate more specific projections of shipbuilding than purchasing. Between 1670 and 1776, at least 300 and possibly 350 craft were constructed to be navigated on the high seas. If the scraps of literary evidence are reliable, the colony

113. Clowse, *Charleston's Overseas Commerce*, pp. 57-58 (Table B-21), and pp. 70-71 (Table B-41).

114. *Hist. Statistics of the U.S.*, pp. 1173-74 (Series Z 155-164).

115. Ibid., pp. 1176-77 (Series Z 213-226). The year-to-year official values of imports from England show downturns for individual years; however, any temporary decreases, which may be attributed to the several nonimportation agreements among Americans, were usually followed by dramatic surges of importing in subsequent years.

116. The Charleston naval lists do not detail cargo imported from England, but many vessels arriving from England are marked in the series as arriving in ballast.

117. A large majority of owners (shareholders) listed in the ship registers specified their occupation to be 'merchant.' The second leading category was 'mariner.' Conclusion based on unpublished compilations of vessel owners.

118. Estimated. Table 4 indicates fifty to sixty were built during years where data exist.

119. Both ship registers and naval lists have thousands of names which will someday be fitted together by computers into meaningful patterns.

produced a mean of one vessel annually during the first sixty years. From 1735 through 1774, 276 vessels totaling 10,644 tons were built (Table 4). Projecting from this existing evidence, total tonnage built throughout the colonial era would be in the range of 13,000 to 14,000 tons. The cumulative worth of these craft may not have exceeded £100,000 sterling. Possibly the total value was as little as £50,000 to £75,000, certainly a mean investment of considerably less than £1,000 annually when spread over the colonial era.[120]

The extent of unrecorded construction and refitting is the most confounding aspect of this investigation. Historians are never likely to be able to deal with the problem. Comprehensive sources were never prepared, and contemporaries did not see fit to comment on these activities except briefly. Nevertheless, shipwrights, ship carpenters, and their laborers found steady employment repairing wooden vessels which had only minimal protection from the ravages of nature.[121] Since every person in the colony had a small sail if needed for business or personal mobility, the demand for new schooners and sloops must have been steady. Even among bottoms intended for intercolonial service, over half were schooners whose mean size was about twenty tons (Table 4). The largest and best-constructed craft built primarily for intracolonial transportation overlapped in size and seaworthy qualities with vessels planned from the beginning as intercolonial freighters. As a result, some sloops and schooners used by plantations or serving as packets occasionally were registered years after being built. Some examples of these are found in ship registers, particularly at times when demand for any kind of tonnage was strong and it paid to convert a carrier from intracolonial to intercolonial use.[122] Total tonnage of unregistered craft conceivably exceeded that which appeared in naval lists and ship registers. Demand for repairs of older vessels and a constant need for additional or replacement local carriers gives credence to a view that South Carolina shipbuilding was a service integral to the South Carolina business milieu.

Though both shipowning and shipbuilding were small relative to the value of South Carolina trade or when compared to the level of such activities in many other colonies, both attracted some men and capital. At its peak in the early 1770's, shipping absorbed the energies of more people and more money than any other commercial activity in South Carolina save planting.[123] Every vessel, however small or large, had a master. The total of fifty or sixty masters of seagoing craft employed 250 to 300 crewmen. Uncounted numbers, probably several hundred more men, slave and free, worked on the sloops and schooners plying local waterways. Older craft were maintained by tens of shipwrights and other skilled laborers who might alternate time between repairing and building new vessels. Hundreds more men loaded and unloaded cargo and worked in various capacities on docks, in warehouses, and in other jobs along the waterfront. This shipping enterprise was supported in the colony by an estimated 250 to 300 shareholders in overseas craft and a larger number who owned the colony's intracolonial carriers. Vessels from other ports also required emergency repairs. Shipping's impact on the people of this colony is a story which deserves more attention than it has received in this study or from other historians.[124]

Ultimately, the failure of either Britishers or Americans to invest in South Carolina shipbuilding limited the industry. It is the main reason that no more than seventy-five vessels as large as fifty tons were built in the colony, and why shipbuilders were confined to repairs and building twenty-ton schooners (Table 4). Neither outsiders nor South Carolinians were moved by theoretical assessments which stressed South Carolina's potential for shipbuilding. Practical businessmen respond to self-interest, and neither outsiders nor local residents had long-term reasons for supporting shipbuilding. South Carolina merchants consistently prospered by dealing in slaves and goods. Outsiders had opportunities to buy shipping from established dockyards both in Great Britain and elsewhere in the colonies. When a few Britishers paid attention to South Carolina's shipbuilding possibilities in the 1760's and early 1770's, their modest infusion of money was inadequate to carry the industry forward. Colonials from other ports never bought other than an occasional new schooner in South Carolina, and ship registers show no regular groups of

120. See n. 43.

121. Based on unpublished compilations derived from Charleston naval lists, the mean age of vessels in overseas commerce may have been only five or six years old. Relatively few vessels were ten years old, and vessels twenty or older were a rarity.

122. This fact accounts for some of the differences between Table 2 where new vessels are listed by year initially registered and Table 3 where new vessels are listed by year built as specified in the source.

123. By the late colonial era, it is possible that the number of workers producing forest products and lumber outnumbered workers engaged in shipbuilding, but that does not appear to have been the situation.

124. Estimates in this paragraph are based on findings and this researcher's impressions of shipping activities.

such investors.[125] The flurry of building ships in the last colonial days turned out to be important only as corroboration of the claim made periodically since before 1700 that South Carolina shipyards could fabricate first-class larger vessels. As the colonial days waned, local and outside investors were apparently uninterested in financing future expansion of the industry.

As an overview, this study sketches outlines of shipowning and shipbuilding over the life of one colony. Throughout, the investigation has been hindered by lack of a comprehensive economic history of South Carolina. While the colony's niche in the eighteenth-century British Empire has been generally understood, this researcher had to establish key relationships by piecing together information from a variety of sources as well as formulating his own interpretations where none were in print. The context and texture of colonial South Carolina's economy needs further exposition. Factual materials uncovered for this study fill some previous gaps. The work also becomes a reference in comparing aspects of the commercial development of this colony with others. Findings and their interpretations should become departure points for additional research.

125. Conclusion based on unpublished compilations of owners.

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William Bainbridge

A Journal from City of Washington to Pensacola on USS *Hornet;* Return on USS *John Adams* and by Stagecoach from Savannah, Georgia, to Petersburg, Virginia, October-December 1825

By Dr. George F. Pearce

In early 1823 the Florida Legislative Council petitioned Pres. James Monroe and the United States Senate for certain improvements in the territory, among which was the establishment of a naval station at Pensacola. The appeal found the president and the legislators in a receptive mood. The following year, on 15 April 1824, the Board of Navy Commissioners informed the secretary of the navy that it would be advisable to establish a naval depot on some part of the coast of Florida, as near as possible to the mouth of the Mississippi. On 25 February 1825, a bill authorizing a navy yard and depot at Pensacola was passed by the U.S. Senate, and the House gave its speedy approval on 3 March 1825.

Prior to the selection of Pensacola, the recently established West India Squadron had been operating from Key West. The squadron cruised the Gulf of Mexico and the Caribbean in search of the pirates who preyed on American commerce. On 24 May 1825, the secretary of the navy informed Commodore Lewis Warrington, commander of the squadron, that for reasons of health and efficiency all stores and forces at Key West were to be removed to Pensacola. In the middle of September, the secretary informed Commodore Warrington and Capts. William Bainbridge and James Biddle that they were commissioned to proceed to Pensacola and select a site for a naval establishment. So that their report could be completed prior to the meeting of Congress in December, the commissioners were ordered to carry out their duties with dispatch.

Bainbridge's account of his experiences from early October until early December gives a most graphic account of how and under what difficulties the selection of the site was carried out. The journal further records the day-by-day navigation of the ships *Hornet* and *John Adams,* much of which was done in extremely inclement weather, and the handling, seaworthiness, and sailing qualities of the ships. The journal also records some of Bainbridge's personal experiences that were beyond his assigned duties, such as his comments about the people and economic conditions in Pensacola, his observations about accommodations on a stage line, and the reception the commissioners received in towns along the stage line between Savannah, Georgia and Petersburg, Virginia.

The original of the journal is in the possession of the National Archives.[1] With few exceptions, mostly confined to abbreviations, the spelling, punctuation, and capitalization have been left as I found it. I have added such identification and informative notes as I have thought useful to the reader.

A Journal from City of Washington to Pensacola

Wednesday, 5th Octr. 1825. Left the City of Washington in the Steam Boat Potowmac for Norfolk to join the Sloop of War Hornet[2] at that place, which vessel had been ordered to be prepared to convey myself,[3] Commr. [Commodore Lewis]

1. 'PS-Navy Yard and Naval Hospital, Pensacola, Fla., 1825-1877.' Record Group 45, Box 533, National Archives. The manuscript journal has forty-three pages. Professor Pearce wishes to thank James A. and Lana Servies for their help in transcribing the journal.

2. 'Commissioned as a Brig in 1805; 18 guns; altered to a sloop of war, 1811; dimensions, length 106' 9'' between perpendiculars, moulded beam 29' 7'', depth of hold 14' 0''; 440 ⅔ tons; 140 men; builder, William Price, Baltimore, 1805; rebuilt and widened 10', 1811; lost with all hands off Tampico, Mexico, 10 September 1829.' Howard I. Chapelle, *The History of the American Sailing Navy* (New York: W. W. Norton & Co., 1949), p. 543.

3. William Bainbridge was born in Princeton, New Jersey, on 7 May 1774. At the age of fifteen he went to sea on a merchant ship, and before he was twenty he was in command of his own vessel. He was commissioned a lieutenant in the U.S. Navy in 1798. Bainbridge won a notable victory over the British frigate *Java* during the War of 1812. He commanded the Mediterranean Squadron from April 1820 to July 1821. His later years were spent in command of various naval yards and in service on the Board of Navy Commissioners. Bainbridge was serving on the board when ordered to Pensacola. He died in Philadelphia on 27 July 1833. *Webster's American Military Biographies* (Springfield, Mass.: G & C Merriam Co., 1978), pp. 21-22. For more details see David F. Long, *Ready to Hazard: A Biography of Commodore William Bainbridge, 1774-1833* (Hanover, N.H.: University Press of New England, 1981).

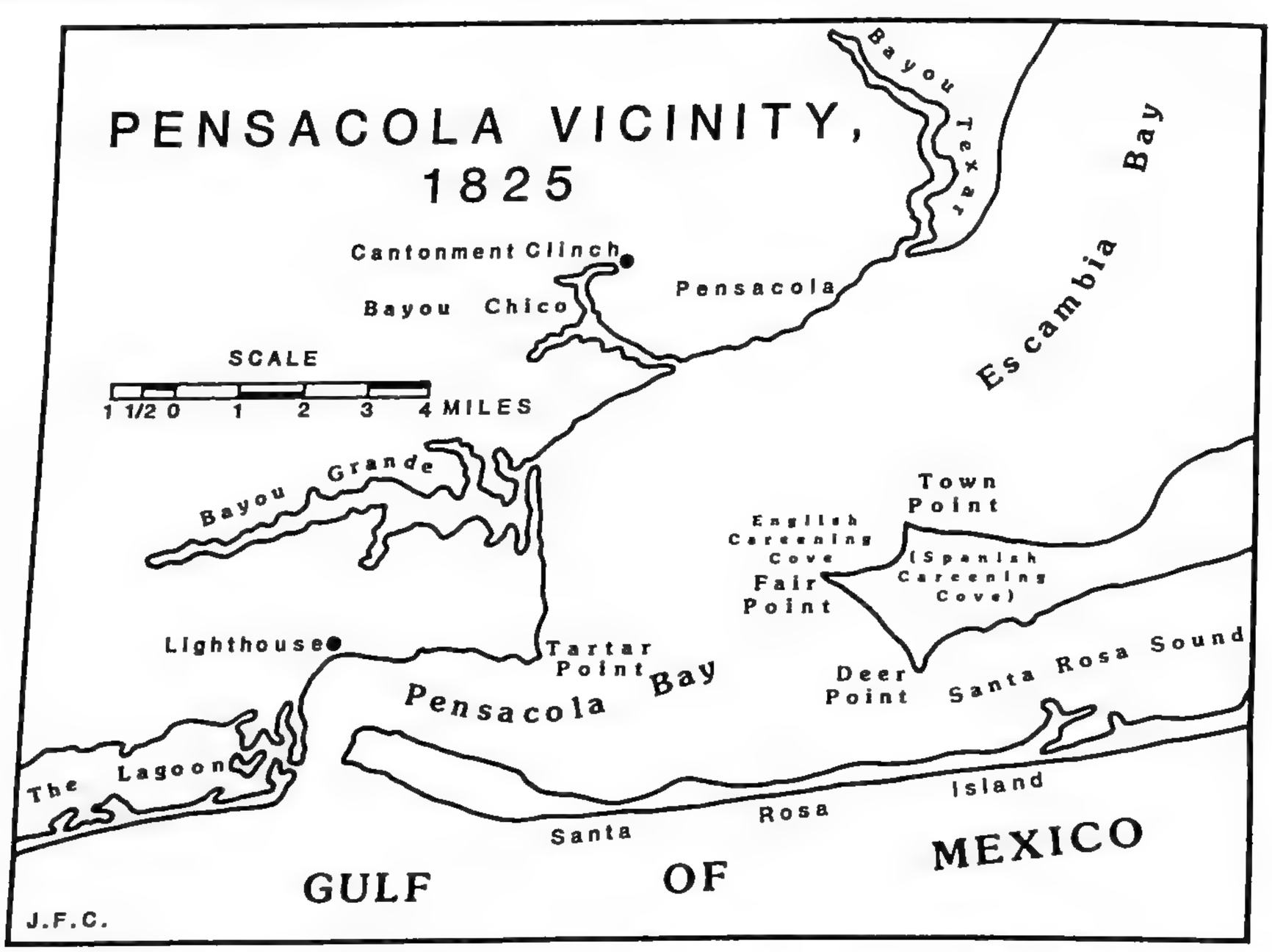
Warrington[4] and Capn. [Captain James] Biddle[5] to Pensacola, having been appointed Commissioners to examine the waters of Pensacola, for the purpose of selecting a suitable site for a Navy Yard.

Thursday, 6th. After a very unpleasant passage from excessive hot weather and unsociable company, arrived at Norfolk at 6 pm.

Friday, 7th. At 10 am visited the Hornet in company with Commr. Warrington and Capn. Biddle. I was much dissappointed in finding her not ready and that slow progress had been made in preparing her for sailing. After which I visited the Navy Yard at Gosport[6] and saw with regret that much less work had been done there the present year than I expected. In the night had a very severe attack of the Billious Cholic.

Saturday, 8th. I am in some measure relieved of the violince of the cholic, but suffer much with nausea of the stomach & chills & fever. Doctr. [Isaac] Hulse[7] of the Navy tends me in whom I feel great confidence.

Sunday & Monday, 9 & 10th. The weather continues excessively warm. I am convalescent. The Hornet not yet ready.



4. Lewis Warrington was born on 3 November 1782 in Williamsburg, Virginia. He entered the navy as a midshipman in January 1800. During the War of 1812 he inflicted heavy damage on enemy shipping. In 1824 he became commander of the West India Squadron. He served twice on the Board of Navy Commissioners between 1827 and 1842. In 1842 he became chief of the Bureau of Yards and Docks, and in 1846 he became chief of the Bureau of Ordnance. Warrington died in Washington, D.C. on 12 October 1851. *Webster's American Military Biographies* (Springfield, Mass.: G & C Merriam Co., 1978), p. 464.

5. James Biddle was born on 18 February 1783 in Philadelphia. He entered the navy as a midshipman in 1800. During the War of 1812, he engaged and destroyed *Penguin*. He later saw duty in South American waters, the Caribbean, and the Mediterranean. In 1845, as commodore of the East India Squadron, he helped negotiate the first treaty between China and the United States. He briefly commanded Pacific coast naval forces during the Mexican War, January-July 1847. He died in Philadelphia on 1 October 1848. Ibid., pp. 32-33. See also David F. Long, *Sailor Diplomat: A Biography of Commodore James Biddle, 1783-1848* (Boston: Northeastern University Press, 1983).

6. The Gosport site was originally developed as a private enterprise in 1767 by Andrew Spowle and was called the Gosport Shipyard. The proprietors of the yard changed numerous times until finally the federal government bought the site, then called the Gosport Navy Yard, from the Commonwealth of Virginia in 1801. Considerable construction and renovation of existing facilities soon followed this purchase. It remained the Gosport Navy Yard until 1862 at which time it was designated the U.S. Navy Yard, Norfolk, Virginia. In 1929, the name became Norfolk Navy Yard, Portsmouth, Virginia. Finally, in 1945, the site was redesignated the Norfolk Naval Shipyard, Portsmouth, Virginia. There has never been a separate navy yard in Norfolk, itself. Information furnished by William S. Dudley, Head, Historical Research Branch, Naval Historical Center, Washington, D.C.

7. Dr. Isaac Hulse was born at Coram, New York, on 31 August 1797. Upon his graduation from the University of Maryland in 1823, Hulse immediately joined the navy. In August 1824, he became an assistant surgeon at the Gosport Naval Hospital. In September 1825 he began a short tour of duty on board *Hornet*. On 14 November 1826 Hulse became a surgeon at the Pensacola Naval Hospital. In addition, he several times held the position of fleet surgeon of the West India Squadron and of the Home Squadron. He died

Tuesday, 11th. The thermeter stands at 82. The weather very oppressive. The Hornet not yet ready. Capn. Biddle & myself left Norfolk for Fortress Monroe, where we intend to await the arrival of Hornet in Hampton Roads. We reached the Fortress at 12 O.C. [o'clock]. The officers of the Garrison paid their respects to us and showed us every polite attention. We were much indebted to the hospitality of my worthy friend Colr. Eutis [Colonel Abram Eustis][8] the Commandr. whose gentlemanly deportment and character for hospitality is well known. The weather exceedingly hot.

Wednesday, 12th Octr. A strong NE gale and a very sudden change in temperature. I rode this day about 8 miles on horse back in company with Colr. Eutis. A more delightful beach I never was on. About sunset the Hornet anchored in Hampton Roads.

Thursday, 13th Octr. Pleasant weather with Easterly winds. At 10 am Capn. Biddle & myself embarked on board the Hornet. At Meridian Commr. Warrington joined us. At 2 pm altho the wind ahead, got underway, and beat down to the Capes. At 7 pm the tide of flood setting strong, anchored. Cape Henry lighthouse bearing SEbS 4 miles.

Friday, 14th Octr. Commencing at 12 hours sea time. At midnight got underway and beat out of the Capes. At 4 am discharged the Pilot. The lighthouse bearing WbN 9 miles, and was then in 9 fas. [fathoms] depth of water. The remaining part of these 24 hrs light breeze from SE. Lat[itude] Accnt. [by account or by dead reckoning] 36°57′; Long[itude] 75°42′; SbW current 1 mile pr. hour. Air 72°.

Saturday, 15th Octr. Light variable winds from S to East with cloudy weather and drisling rain. Lat. Obsr [observed] 36°23′ N; Longitude 75°26′ W; Current SbW, 24′; Air 75°.

Sunday, 16th Octr. Changeable weather and variable winds. Fitted Goulds patent log to make an experiment as to its accuracy. Lat. Obsd. 35°41 N; Long. 76°41′ W. Took several observations to ascertain the longitude by chronometer. Long. by Chronr. 76°35′ W; Chronr. fast of Gren [Greenwich] Time 8′41″. Air 72°; Water 71°.

Monday, 17th Octr. Very squally weather all these 24 hours with excessive hard rains with high sea running and at times blowing a gale. The wind from NNE to NE. The Hornet is a good sea boat but does not sail fast. I apprehend that she is too much by the head. Lat. Accnt. 33°20 N; Long. 76°00′ W. The air is 72°. W[ater] 79°. On the Eastern edge of the Gulph Stream.

Tuesday, [18th Octr.] Strong breezes from NNW to NNE with cloudy changeable weather. A high sea running. Ship a great deal of water. The pumps frequently at work. Makes 16 In. an hour pressure & her waterways & deck seams are open. Made experiment with Goulds patent log and found it very accurate but unfortunately lost the Log Ship made of brass. Lat. Accnt. 30°09′ N; Long. 76°52′ W. Longitude by the two Chronometers agree very near with that by Accnt., but not very certain as to the accuracy of their rates. And not being enabled to get either Lunar or Stellar observations to ascertain their rates correctly I do not put that full confidence in them as I should otherwise do. Yet have no doubt of their near approximation.

Wednesday, 19th Octr. Strong breezes & fresh gales from NW to NNE. Cloudy weather. At times squalls and rain. The heavenly bodies still obscured so as to prevent lunar observations. The chronometer and DR [dead reckoning] corresponds. No particular ocurrences. Obsd. Lat. 27°17′ N; Long. Accnt. & Chronometers 76°12′ W. Air 76°.

Thursday, 20th Octr. Strong breezes from NE to NNW. Changeable weather. Squally & rain. At midnight Captn. [Samuel] Woodhouse[9] hove to being then abt. [about] 14 miles to the Northd [northward] of the Hole in the Wall.[10] At 5 made sail and steered West. At 7 am saw the land of the Island of Abaco bearing from WSW to NW. At ½ past 7 steered SWbW soon after saw the point of the Island at the Hole in the Wall bearing SWbW distance 4 or 5 leagues which proves the reckoning to be very accurate. At 10h 20′ was abreast of the Hole in the Wall it bearing NbE 4 miles & in which bearing it shows

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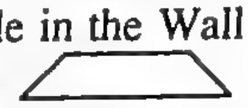
at the Pensacola Naval Hospital on 29 August 1856, while still in uniform. See Charles J. Werner, *Dr. Isaac Hulse: His Life and Letters* (New York: Charles J. Werner, 1922). See also Special Collections 66-1, 66-3, Innerarity - Hulse Papers, John C. Pace Library, The University of West Florida.

8. Col. Abram Eustis, of the Fourth Artillery, was promoted to that rank on 10 September 1823. He became a brigadier general on 30 June 1834. In 1836, during the Second Seminole War, Eustis commanded the left wing of Gen. Winfield Scott's three-pronged attack against the elusive Seminoles. Eustis died on 27 June 1843. Francis B. Heitman, *Historical Register and Dictionary of the U.S. Army From Its Organization, Sept. 29, 1789 to March 2, 1903* (Washington: GPO, 1903), 1, 408.

9. 'Samuel Woodhouse. Midshipman, 2 May 1801. Lieutenant, 4 May 1808. Commander, 27 April 1816. Captain, 3 March 1827. Died 16 July 1843.' Edward W. Callahan, ed., *List of Officers of the Navy of the United States and of the Marine Corps from 1775 to 1900* (New York: Haskell House Publishers, 1969), p. 601.

10. Late eighteenth-century maps refer to the southern tip of the Abaco Island as 'The Hole in the Rock.' See P. Lee Phillips, *Notes On The Life and Works of Bernard Romans*. A Facsimile Reproduction of the 1924 Edition with an Introduction and Index by John D. Ware (Gainesville: University Presses of Florida, 1975).

the largest. Off the point of the Hole in the Wall there is a square rugged flat top rock being within a few hundred yards of the point. In running down from the Eastward to make the Hole in the Wall this rock appears like a square Castle situated in a small bay to the northward of the Hole in the Wall. The northern point of this small bay is rugged and [is] the highest land hereabouts. Over the middle of the Bay, in land, stands a house by itself, and the only object in land, visible in running down for the Hole of the Wall. When nearly abreast of the Hole in the Wall the rock which has been described when its west side is opening with the east end of the point of the Hole in the Wall it has this appearance similar to a square piece having been cut out of the top of the Land. On standing on immediately after the Hole in the Wall will be seen bearing about NbE it appears  in an oblong form as if cut about 2 or 3 feet above the water through which the sea on the opposite side can be seen. After passing the Hole in the Wall you will discover 3 or 4 thatched houses to the westward of it on the side of the Hill about ⅔s from the waters edge to the top of the Bank. When abreast of the Hole in the Wall at 10h 20′ the longitude by 1 Chronr. was 77°29′; by the other 77°42′. Steered WbN until noon. At Meridian was in latitude 25°50′. The Hole in the Wall bore [blank] Stirrup Key, [blank] Little Issacs, [blank] Great Issacs [blank].

Friday, 21st Octr. These 24 hours very strong Breezes from NNE to NE. At 2 pm the Western most key of Stirrup Key bore South, distant 8 miles. By 11 pm had ran from the hole in the Wall 112 miles on a WbN course by Compass 1/2 a point Easterly Variation, then steered S½W 46 miles. Being then 4h 30′ am got soundings 30 fas. Muddy Bottom. S¼W 4 miles. 5 am got bottom in 50 fas., hove to until ¼ past 6 am then bore up SbE. Same time saw the land from the masthead bearing East, suppose it to be Cat Island the southernmost of the Bemini Islands. Steered SbE 20′, then S½E33′; SbW 5′. Lat. observed 24°40′ N; Long. 80°5′ W.

Saturday, 22d Octr. Commences with hard gales from NE. Throughout the 24 hours steered the following courses SbW 20′; SbW½W 16′; WSW 12′; NWbN 5′; WNW 2′; WbN 8′; West 10′; WbN 12′; WSW 44′; SWbW½W 37′; SWbW 19′; SW 28′. At 3 pm discovered land ahead bearing SWbS supposed it to be the double headed Shot Keys. At the same time altered the course to Westward. At 4h 31′′ the wester most Key bore SSE 4 miles distant. At 5 pm saw land from the mast head nearly ahead bearing SWbW which no doubt is the double headed Shot Keys. And the Keys already seen must have been the Deadmens or Dog Keys forming the North end of Key Sal Bank. Braced up sharp by the wind and hauled off NWbN, same time found that we were in light coloured water. Leadmens were sent into the chains, found we were in only six fathoms water. And none of the Keys or any land vissible from the deck. And none of the Keys we had first made in sight from the Mast head. Carried a press of sail, soon found that we were deepening the water, but slowly, for at 8 pm we were in 25 fas. The charts lay down the bank along these Keys only a very short distance from them. I am however inclined to believe that soundings are further from them than what any of the Charts exhibits. Altho it may be so, I nevertheless advise all navigators in making the Double Headed Shot Bank in crossing from the Northward if made about Deadmans Keys not to approach them nearer than just to discover their distance from the ships deck and by night not nearer than 25 fas. and then not to steer to the Southward of West until they feel confident from their departure to be to the Westward of Key Sal Bank. And if bound to the Havanna then to steer SW½W.

Through out the night and the remainder of those 24 hours a hard gale from NE with a very high sea. Having cruised on the Havanna Station during the inclement winter of 1799 & 1800, I can say the sea we experienced today was uncommonly high for this latitude & situation. Standing in for the Cuba shore under close reef'd Top Sails & Fore sails, and expected to make the land about the Havanna, which no doubt we should have done had the weather been clear. Lat. obsd. with a bad horison 23°24′ N; Long. Accnt. 82°00′.

Sunday, 23d Octr. Commences strong gale from East to NEbE and continued throughout the 24 hours, with a very high cross sea running. Standing in towards the Island of Cuba to make the land, for a departure to round the Dry Tortugas. At 1 pm made the Island of Cuba bearing SEbS, but the weather being so very hazey could not distinguish the land sufficiently to identify with certainty the particular part of the Island. But presume it is about the Havanna. At 1/2 past 4 pm saw the Tableland of Mariel. At 4h 50′ it bore SE abt. 5 Leagues distant. From noon to this hour the Ship had sailed SW 27′ and WbS 27′. At 4h 50′ took a departure from the Land of Mariel in Lat. 23°01′, Long. 82°45′ W then bearing SE per compass distance abt. five Leagues. From noon to this time had sailed SW 27′ and WbS 16′. From the new departure courses and distance as follows Viz: WbN½N

8′; NW½W 54′; W½N 23′; WNW 24′; WbN½N 19′; thence NNW 29′. Latitude Obs. 24°29′; Long. Accnt. 84°49′.

Monday, 24th Octr. Commences with strong Gales from NEbE and a very disagreable cross sea. Carrying a press of canvass. Steering NNW (a point free) sailing at the rate from 9 to 10 knots per hour. At 4h 20′ apparent time of Ship. Longitude by the ship chronor. 85°30′45″; by the Commr. D[itt]o. 85°13′15″. Longitude by from the mean 85°22′0″. The middle and latter part of these 24 hours more moderate, less wind & better weather. From Noon until 9 am sailed as follows Viz; NNW 176′; from 9 am till Meridian sailed NbW½W 16′; and thence NNW½W 8′. Then clear & pleasant weather which we have not had before since we left the Chesapeake. At 8h 40′ appr. [apparent] time of ship.

Longitude by Ships Chron.		86°35′
by Compass		86°28′
		173°03′
	Mean	86°31′30″
Brought up to Meridian		10′00″
		86°41′30″
Latitude by Obsr.	27°37′	
" by Accnt.	27°36′	
Longitude by Accnt.	86°13′	86°13′
		172°54′30″
Mean of Longitude of the two Chronometers and by Accnt.		86°27′15″

Tuesday, 25th [Octr.]. Light breezes from NE and pleasant weather. At 3h 27′59″ longitude by Ships Chrono. 87°01′30″; by the Compass 86°54′; mean 86°57′45″. At 8 pm sounded no bottom. At 10h 40′ pm the Latitude by the moon was 28°53′. At 2 pm sounded no bottom from which, and the Latitude the ship is in, it is evident that she must have entered the deep water between the Bank as laid down on the Charts and which proves the accuracy of the Reckoning. At 9 am made the Island of Sta. [Santa] Rosa,[11] bearing from N to NNE the appearance was a high broken sand hill. Soon after, the high land with trees was seen over Santa Rosa. At 10 pm the Light House of Pensacola[12] directly ahead, bearing bearing NbW. At the same time the foregoing mentioned Sand Hills appeared as four hills lying diagonally parrallel to each other. In which position you will discover another lump of Sand Hills to the Westward of those already described which soon after by standing into the land forms into two Hills. Hauled up NN½E to keep to windward of the Port. Stood into the Land. Fired a gun, hoisted the Colours & made a signal for a Pilot. Shortened sail. Stood down towards the light House in 5½-5 fas. When abreast of the Bar rounded it in five fas. and laid to with the Main top sail to the mast for the Pilot then seen coming out of the harbor. At the time of heaving to the Light House bore NNW in 5 fas. water. At [blank] the Pilot came on board, wore Ship and stood along the Bar WSW until the Light House bore NbW and the Barrancas[13] N½W. And then cross the Bar with those bearings in 4¼ fas. by the lead. Immediately in getting over the Bar had 5 & 5½ fas.

The following were the Bearings of the most remarkable points &c &c in crossing the Bar - Viz: brought the Light House to bear NbW¼W and the most western point of the Island Santa Rosa NbW distance about 3 miles. Then steered for the Light House and crossed the Bar in 4 fathoms and soon deepended into 6 fas. And then hauled up NWbN½N which course we continued to steer until Santa Rosa's point bore NE½E. And then steered for the Barrancas flag staff until we got into 7 fas. water on the Barrancas side of the Channel when we should have hauled up EbN had the wind permitted, and continued that course until West end of St. Rosa bore WSW distance about one mile and should not have had less than 6 fas. And where we might have anchored sheltered from all winds. But the wind being a head we had to beat up the Bay and about 2 O.C. came to anchor in 4½ fas. abreast of the Town of Pensacola.

Brief Minutes at Pensacola

Wednesday, 26th Octr. 1825. The weather being stormy was unable to commence the examination of the Bay. Received the visits and congratulations of many of the

11. Santa Rosa Island is the barrier island off the coast of present-day Escambia, Santa Rosa, and Okaloosa counties. The entrance into Pensacola Bay is located at the western tip of the island.

12. In 1823 Congress provided for the construction of a lighthouse at the entrance of Pensacola Harbor. It was completed and illuminated (Argand lamp) in 1825. For more details about it and the present-day lighthouse see William S. Coker, 'Pensacola Lighthouse' in *Historic American Buildings Survey, No. Fla. 147* (National Park Service, 1975), pp. 1-10.

13. Fort San Carlos de Barrancas was constructed by the Spanish in 1797. American forces occupied it after Spain ceded Florida to the United States in 1821.

most respectable Citizens and of Col. [Duncan] Clinch[14] and the officers of the U.S. Army stationed at Cantonment Clinch.

The Mayor and Aldermen, of Pensacola, had a meeting at which they passed a resolve to welcome our arrival, and to tender their promis to further the object of our visit to this place. And appointed a Committee of three Gentlemen to wait on us and to present the same, see paper A, which was acknowledged by us in a written communication, see paper B.[15]

Thursday, 27th [Octr.]. Spent the greatest part of this day in exam[in]ing the Bay above Pensacola. Found the water shoal at a long distance from the shore. In this excursion was very near being upset in one of the Hornet's Boats with sails. And as I cannot swim, I consider it a fortunate escape as we certainly were for a moment in most eminent danger. 'But the sweet little Cherub, that sits perched up aloft, keeps watch for the life of poor Jack.'[16] This day received an invitation from the Citizens of Pensacola to a public dinner — see paper C — which we accepted.

Friday, 28th Octr. Hired a Schooner and spent the whole day in examining the Bay accompanied by Mr. [Robert] Mitchell, Mr. [Peter] Alba and Capn. Allen, the two former, as a Committee to point out the best positions in their opinions for a Naval Depot.[17] The day was very favorable as to wind and sea for the examination. Examined the shores from the Town to the Barrancas and on the opposite side of the Bay at Deer Point, Fair Point, and Town Point and the English Careening Cove and the Spanish Careening Cove.[18] Found the deepest water that is to be found on this side of the Bay, close to, and to the North of Deer Point. But this situation is not comparable with the opposite, west, side of the Bay near to and to the North of Tartar Point.[19]

Saturday, 29th Octr. Gave the necessary orders for ascertaining the actual depth of water at a certain distance from the Shore near Tartar's Point, on which service Lt. [Henry A.] Adams[20] of the Hornet was employed. Visited Cantonment Clinch and returned the visits of the respective Gentlemen in the Town. And making inquiry as to the fertility of the surrounding adjacent Country.

Sunday, 30th [Octr.].

Monday, 31st Octr. *Tuesday,* 1st Novr. Employed these two days in examining the Bay, in the Hornet. Went on shore and examined the ground at Tartars Point and the Barrancas. Found the most elligible situation to the North & East of Tartar's point, embracing Tartar's point (which point should be occupied as a Naval Battery). Gave the necessary instructions for sounding the Bar.

Wednesday, 2d [Novr.]. Lt. Adams employed in obtaining the depth of water at the place selected. Lt. [A. B.] Pinkham[21] for sounding the Bar. This day dined at a public dinner with the Citizens. It was an excellent dinner and conducted with the utmost propriety. On the Complimentary Toast being given to us, I rose and thanked the Company in the following words, 'Gentlemen in the name of my Colleagues & Self, I beg leave to tender you our warmest acknowledgements, with assurance that our greatest praise and highest ambition has ever been to merit and to receive the approbation of our Countrymen.'[22]

Thursday, 3d [Novr.]. Lt. Adams and Lt. Pinkham are still engaged in the respective service in which they were ordered.

14. Duncan Lamont Clinch (1787-1849) entered the U.S. Army in 1808. He served during the War of 1812, conducted a successful campaign against Negro Fort in Spanish Florida in 1816, and commanded regular and volunteer troops in the Second Seminole War. He served in the U.S. House of Representatives. He died in 1849. For more details see Rembert W. Patrick, *Aristocrat in Uniform: General Duncan L. Clinch* (Gainesville: University of Florida Press, 1963). Military camps were called cantonments and were often named after their commanding officer.

15. Paper A, paper B, and paper C have not been seen.

16. Bainbridge shows a familiarity with Charles Dibdin's poem 'Poor Jack' which contains these lines: There's a sweet little cherub that sits up aloft,/ To keep watch for the life of poor Jack. Ronald Hope, *The Harrap Book of Sea Verse* (Freeport, N.Y.: Books for Libraries Press, 1969), pp. 93-95.

17. Mr. Robert Mitchell was the local postmaster. Mr. Peter Alba was a city alderman, and previously had been mayor of Pensacola (1823-1824).

18. The sites on the east side of the bay were located on the peninsula which juts into Pensacola Bay, near the location of the present-day community of Gulf Breeze.

19. Tartar Point was on the west side of the bay between Pensacola and the entrance into the bay. The place was named for HMS *Tartar* (specially fitted out for hydrographic survey) which arrived in Pensacola in 1764 with George Gauld aboard to begin the official charting of the harbor and adjacent Gulf waters. See *George Gauld: Surveyor and Cartographer of the Gulf Coast*. By John D. Ware, revised and completed by Robert R. Rea (Gainesville: University Presses of Florida, 1982).

20. 'Midshipman, 14 March 1814. Lieutenant, 13 January 1825. Commander, 8 September 1841. Captain, 14 September 1855. Commodore, Retired List, 16 July 1862. Died 11 May 1869.' Callahan, ed., *List of Officers of the Navy 1775 to 1900,* p. 17.

21. 'Midshipman, 17 June 1814. Lieutenant, 13 June 1825. Commander, 8 September 1841. Died 23 July 1843.' Ibid., p. 437.

22. According to a newspaper account of the dinner, 'A very large and respectable assemblage of citizens of Pensacola . . . sat down to an elegant dinner [at the Commercial Hotel]. The room was handsomely decorated with several flags of the different Republics [states], and with a number of splendid copies of the Declaration of Independence. The company were enlivened and amused by a number of National, Patriotic and convivial songs . . . , and the evening passed with the utmost harmony . . . , and with great satisfaction to all who partook.' *Pensacola Gazette and West Florida Advertiser,* 5 November 1825.

Friday, 4t Novr. Received Lt. Pinkham's soundings on the Bar which gives the least water 21 feet at low water. The tide rises about 3 feet. We are engaged this day in preparing our report to the Secretary of the Navy.
Saturday, 5th Novr. Agreed on our report and had a first transcript of it made.[23] Lt. Adams still engaged at the soundings. This day went on board the Hornet to take medicine and to be nearer Doctr. Hulse who has occasionally tended me on shore, having for several days past felt quite unwell.
Sunday, 6th [Novr.]. Lt. Adams closing his soundings. We, the Commissioners, are ready for a departure and only waiting for the John Adams[24] to carry us to the Chesepeake. Expect to sail tomorrow.

The Town of Pensacola has a population of about 1400 souls. It has evidently been much on the decline since the fever of 1822,[25] which caused many to remove from it and prevented others from coming to it from apprehension of the return of the Fever, but which panic has in great measure subsided and the place is now reviving. It has a mix population of Americans & Spaniards who altho not oppulent are hospitab[le] to strangers and harmonize among themselves. From natural causes it cannot be otherwise than healthy. Situated in a sandy soil that retains no moisture, has no marsh or stagnant water to generate a miasma or noxious effluvia, void of cultivation, to produce vegetable decomposition. Very pure & wholesome water in abundance. The prevalent winds blowing from the Sea producing a pure Atmosphere.

The land for 60 miles to the Northward of Pensacola, I understand, is similar to that near the Town which is sandy and barren, producing nothing but Pine & Live oak. The live oak appears to delight in this soil as most congenial to its growth. As Alabama becomes more populus, and that population extending itself to the head of the fine waters of Pensacola Bay, this place will be abundantly supplied from that quarter.

It has, at present, a most excellent fish and Beef market. And the inhabitants cultivate in their small gardens a tolerable supply of vegetables. Fruits are scarce owing to the want of Cultivating them. The grapes I understand flourish well here. And so should the fruit orange raised in well selected situations.

At 6 pm took leave of my friends on shore and in company with Commr. Warrington & Capn. Biddle embarked on board the John Adams. Expecting to sail tomorrow morning.

From Pensacola to Washington City

Monday, 7th Novr. At 10 am the Adams weighed anchor and sailed in company with the Hornet. The wind at the time of getting underway blew fresh from ENE which would have been a fair wind crossing the Bar, but by the time the ships reached the West end of St. Rosa, the wind hauled to the ESE and became light. At 11 am the Hornet ahead both vessels beating down for the Bar.
Tuesday, 8th Novr. Nautical time. The wind varying from East to ESE. Light Breezes. At Meridian tacked to the Nd [northward] & Easd [eastward]. When the helm was put down the ship was in 5¼ fas. water but coming very slowly to the wind and making a stern board. At the time her head yards were hauled she was in 4½ fas. The head yards being hauled and braced up very sharp, with the jib sheet flat, while the ship was falling off. She shoaled the water to 3½ fas. before she came to the wind. At this time, we were very near the NW shoal of the Bar on which the sea was breaking with considerable violence. And had she fallen into those breakers, which she came very nigh doing, the Ship and all hands must inevitably been lost. After seeing the tack the Ship had just made it was evident to me that she was a very bad working Ship. And, not withstanding my high respect for the Young Officer [Joseph J. Nicholson][26] who worked her, candour requires me to state that she was not worked to the best advantage, or in the most seamenlike manner. Stood to the Nd on the starboard tack for abt. a mile, when tacked & stood to the Sd [southward] under the expectation of crossing the Bar on this tack which the Hornet, just ahead of us, did do. When we had approached the Bar to 4½ fas. water, the Pilot ordered the Ship to be tacked. The helm was immediately put down, the breeze was light and a heavy swell, the Ship came to the wind but would not stay, then filled away, on the same tack, with the intention of trying her again; at the same moment, the wind veered a point or two to the NWd & to which the Ship luffed. The helm was again

23. Bainbridge, Warrington, and Biddle to Southard, 4 November 1825, *American State Papers* (Naval Affairs), 2:111.

24. 'Frigate, 28 guns; dimensions, length 139′ between perpendiculars, beam 32′, depth in hold 16′ 4″; 544 tons; 220 men; builder, Paul Pritchard, Charleston, S.C., 1799; presented by citizens to U.S. Navy; broken up at Norfolk Navy Yard 1829.' Chapelle, *History Sailing Navy,* p. 544.

25. Yellow fever had become epidemic in Pensacola by late August and during September 1822. The death toll eventually numbered 237.

26. 'Joseph J. Nicholson. Midshipman, 2 April 1804. Lieutenant, 4 June 1810. Commander, 5 March 1817. Captain, 3 March 1827. Died 12 December 1838.' Callahan, ed., *List of Officers of the Navy 1775 to 1900,* p. 406.

put down, having 3½ fas. water, but the ship unfortunately would not stay and again fell off. There was no alternative but keeping by the wind under the hope that she might cross the Bar. The Reef to the Northward and Westward of the Bar being very near and under our lee, it could not have been avoided even at the time. She first mainstays by the manouvre, of heaving all a back, giving a stern board and veering on her head. I am confidant that any attempt to have weared, however seamanlike it might have been performed, would have been the cause of the certain destruction of the Ship and every life on board. And soon after, she struck most violently in 3 fas. water, the Ship drawing 16 feet, with a heavy swell which occasionally lifted her kept the Ship by the wind and after several most violent thumps, three of which were extremely hard, & one of which amidships, appeared to have broken her in two, she crossed the Bar having knocked off her Rudder, broken her false Keel and done some injury to her Stern. An evidence of the violence with which she struck was that every pintle, 5 in number, made of composition of 3¼ In. diameter, were broken off. My long experience & service at sea has given an opportunity of seeing ships often placed in very perilous situations. And have several times been in the distressing situation of striking on Rock & Shoals. But I have never known a ship to strike so violently as the J. Adams did this day and her escape from destruction with the lost of all the lives on board appears almost a miracle. By the care of the Divine Providence who so often extends his special protection to the seaman in distress, we were generously saved from a watery tomb. In thee O God the Seaman above all others of his species have most reason to place his special trust. After having thumped over the Bar, the Rudder being knocked off, steered by the Wind with the sails for about 2 miles then at ½ past 1 pm anchored in 4½ fas. Made a signal to the Hornet, which vessel was about 3 miles ahead and had crossed the Bar in 4 fas. water without the least risk. In crossing it in the John Adams, the Ship failing in stays, brought her to leeward of the channel way over the Bar. Nor was it to any fault of the pilot Mr. Austin, who conducted himself with great self possesion, that the Ship was unavoidably brought into less water than the Hornet crossed in, which was in 4 fathoms.

After coming to an Anchor hoisted on board the Rudder with the intention for the Hornet to take us in tow and return to Pensacola. But when the Hornet came down, finding that the wind would not admit of our recrossing the Bar for Pensacola, it was then determined that it would be preferable for the Hornet to take us in tow and tow us to windward throughout the night to enable us to return to Pensacola on tomorrow, than lying at anchor so near the Breakers as our present situation, particularly at this season of the year. Consequently, at ½ past 4 pm got underway. Soon after, the Hornet took us in tow and stood off the land. At 8 pm Comdr. Warrington consulted myself and Capn. Biddle as to the best measures to be pursued in our critical situation, being at sea without a Rudder. It was our unanimous opinion, after taking into consideration that the Ship did not make an unusual quantity of water, that her having struck altogether on her keel had prevented any other part of her bottom being injured, that with the addition of the Forge & Smiths from the Hornet to those of the Adams', temporary braces could be made for the rudder and that it might be reshipped. And by having the Hornet with us, she would enable us to reach, at least, the Havanna where the damage the Adams had sustained could be repaired. And, if contrary to our expectations the Ship should have received such injury as to endanger her safety at sea, we had the Hornet in company, which vessel could save the crew of the J. Adams. And if we did not proceed, but endeavor to regain the Port of Pensacola, Northerly Winds might, and probably would, prevent our crossing the Bar for several days. When a Gale on the shore might come on in the night and by being deprived of the Rudder the Ship would very probably be lost. And if the Ship returned to Pensacola and would require extensive repairs (that place in its present state did not afford the means of givin[g] them) that it was preferable to proceed than to return to Pensacola. At 7 pm the Light House of Pensacola bore NbE 10 miles distance. Capn. [Joseph J.] Nicholson used his best exertions for commencing the Repairs of the Rudder at day light in the morning. At 6 am the Hornet's forge was brought on board the Adams. The Crosses for the Channels of the J. Adams being of unusual large dimension (about 2¼ diameter) it was determined to make the Braces & pintles for the Rudder out of them. The courses steered by the Hornet SbE to SEbS distance 38 miles per day. Lat. Obsd. none. *Wednesday,* 9th Novr. Pleasant weather. Wind from NE to East. Courses steered by the Hornet S½E to SEbE dis. [distance] pr [per] log 60′′. Armourers & Smiths at work repairing the Rudder to which fitted 3 sets of Grips to ajoin the Braces. Lat. 28°28′ N; Long. 87°17′ W. *Thursday,* 10th Novr. The wind from NE to East with pleasant Weather. The Hornet still having us in tow. At

6 pm shipped the Rudder which occasioned a general joy on board the Ship. As soon as the Rudder was shipped and the guys hauled taught, the Hornet cast off our tow line. At ½ past 6 pm spoke the Brig Cyrus of Salam from Campeache bound to New York out 15 days. Lat. Obsd. 27°4′ N; Long. Chron. 86°44′ W. Courses from S½E to SEbE.

Friday, 11th Novr. These 24 hours pleasant weather with strong breezes from NE. Steering over wind SEbE. The Hornet in company. Several sails in sight. I percieve from the Latitude by Observation and Longitude by Chron., that we have been affected by a SWbW current 20′. This day compared the Adams Chronometer with the Hornet's and the one in my possession. The following are the results of the Comparison:

Longitude by the Adams's Chron.	86°18′30″
" by the one in my keeping	86°30′30″
" by the Hornet's	86°41′00″
	259°30′00″
Longitude by the mean	86°30′00″

The Chron. in my possession this 11th day of Novr. is 3h 20′58″ slow of Grenwich time and loses daily 17″.

Saturday, 12th Novr. The wind EbN, at times blowing very hard in squalls which occasionally caused the ship to be brought under low sail. A very disagreeable head sea running. This day experienced a current SbW 24 miles. Latitude obsd. 24°53′ N; Long. 84°56′ W.

Sunday, 13th Novr. All these 24 hours strong gales from the Nd & Easd with a very disagreable head sea running. The ship brought under treble reefed Top Sails. Top gal't [gallant] yards down, and the guns housed. Lat. Obsd. 23°56′; Long. DR 83°45′; D[itt]o Chron. 84°00′. Current allowed Ld. 40° E, 36°00′.

Monday, 14th Novr. The weather more moderate but still head winds from NE and the cross sea. At 7 am made high land on the Island of Cuba, which we supposed to be the Pan [a conial or loaf-type peak] of Cavannas. Stood in for the land. No particular occurrences. The Rudder appears to stand well and the Ship does not leak. Lat. obsd. 23°31′; Long. by Chro 23° [i.e., 83°] 40′. Current SE [blank].

Tuesday, 15th Novr. Commences with clear and pleasant weather. The wind from E to ESE. At 5, tacked and stood off the land. The west point of the Bay of Bahia Honda bore [blank] distance [blank] miles. The latitude and longitude of the reckoning corresponds exactly with the bearings of the land. Throughout the night beating to windward along the Cuba shore. At 9 am saw the Havanna bearing [blank]. At 11 am tacked to the northd. The Havanna and Fortifications plain in sight from the Deck. Lat. obsd. 23°18′; Long. DR 82°12′; Moro Castle SW½W 12 miles.

Wednesday, 16th Novr. Changeable, Cloudy, Squally weather. Beating to windward long the Cuba shore. The Hornet still in company and several sails in sight. At Meridian point Yaco bore NE½E and the Pan of Matanzas SW½S. Do not perceive that we have [been] affected any way in current these 24 hours. At 8 pm this day the Hornet parted company.[27]

Thursday, 17th Novr. Changeable weather, the wind from the NNE blowing fresh in squalls. Applying to windward. But make very slow progress. Altho we are in the Waters of the Gulph stream, yet we do not experience any current. Lat. Obsd. 26°06′ N; Long. Chron. 81°26′ W; Long. by lunar obsv. 81°20′ W; Water 80° to 81°.

[In margin:] By an excellent Lunar obs. I this day took, I find the Chron. very accurate.

Friday, 18th Novr. The first and middle part light winds from NE and calms. The latter part blowing hard between NbW & NE which brought the ship to close reefed Top Sails. Latitude 24°18′ N; Chronr. 79°44′ W; Air 76°; 79°. Experienced no current.

Saturday, 19th [Novr.]. Cloudy changeable unpleasant weather. The wind blowing hard from NNE to NE. We experience a most disagreable time in getting through the Gulph. Latitude 25°06′ N; Long. Chro 79°49′ W; Current NNE 30′; Air 72°; W 81°.

Sunday, 20th Novr. Strong breezes from NE. The weather cloudy and unpleasant weather. Beating through the Gulph but making slow progress. The Ship sails exceedingly well. At 11 am saw the land to the northward of Cape Florida bearing NW. Nothing remarkable in the appearance of the land. Could not distinguish any sand hills. The land appeared flat and low with trees. Lat. obsd. 26°33′ N; Long. chron. 79°44′ W; water 79°-80°; Air 71°-75°; Current NbE 48′.

Monday, 21st Novr. Commences with strong breeses from NEbE and cloudy weather. At 6 pm being within 6

27. Four days before they had departed Pensacola, Commodore Warrington wrote Captain Woodhouse saying, 'As soon as the *Hornet* is ready for sea, you will proceed to the Island of Cuba, and cruise between Matanzas and Cape Antonio, for the protection of our commerce, the suppression of the slave trade, and the destruction or capture of pirates.' Warrington to Woodhouse, 3 November 1825. Special Collections 73-6. U.S. Naval Station (Pensacola) Papers, Box 1, John C. Pace Library, The University of West Florida.

or 7 miles of the Florida shore. Tacked ship to the Eastd. The middle part strong Breezes, the latter part moderate Breezes from NE & pleasant weather. Lat. Obsd. 28°30′; Long. chron. 79°55′; No current. Air 68° to 74°; W 76° to 80°

Tuesday, 22d Novr. Changeable weather and light head wind. At 1/2 past Meridian sounded, got bottom in 52 fas. Small coral which indicates our being off Cape Canaveral. Lat. Obsd. None; Long. Accnt. 80°20′; No Current. Air 68°-70°; W 78° to 79°

Wednesday, 23d Novr. Variable winds from NNW to NE with dark hazey unpleasant w[eather]. A very high disagreable sea running. Blowing fresh at times so as to reduce the ship to close reefed topsails. Lat. DR 31°30′; Long. DR 80°45′; Chron. 80°35′; Air 68° to 70°; W 76° to 79°. No Current. At 8 am soundings in 45 fas.

Thursday, 24th Novr. Variable winds from E to NW with dark gloomy unpleasant weather. A constant head sea which strains the rudder very much. At 3 pm was in 25 fas. water. At midnight in 55 fas. And at 2 am was off soundings. Lat. DR 31°45 N; Long. Chron. 78°12′; Air 68° to 70°; W 75° to 78°. No Current.

Friday, 25th Novr. Commences with strong Breezes from NW. At 8 pm a most violent squall struck the ship, which terminated into a hard gale from NNE bro[ugh]t to under close reefed main Top Sail and Stern Stay Sails. Throughout the night the Ship labourered excessively and the Stern pitches worked the head of the Rudder very much and caused much apprehension for its safety. Ends with a hard gale from NNE with a very high cross dangerous sea. Lat Obsd. 31°53′ N; Long. chron. 79°40′ W; Air 62°-68°; Water 74°-78°.

Saturday, 26th Novr. Commences with hard Gales from NNE with a very high cross sea. By the observations of the Latitude of this day we find that the Ship has scarcely progressed on her passage for the last 3 days. And the gale to all appearance likely to stand for several days. Commodore Warrington [has] taken into consideration the make shift Rudder with the probable injury the Ship received on her Bottom when she struck on the Bar at Pensacola, the late Season of the year, with the feebleness of the Crew, thought it most prudent for the safety of the Ship and those on board to bear up for Savannah. In which opinion Captain Biddle & myself fully coincided. At 1 pm bore up for Savannah then distant 166 miles, with the wind two points force. Throughout the night blowing fresh from NNE. At 5 am got soundings in 50 fas. water. Lat. Obs. 31°48′; Long. Accnt. 80°26′; Long. Chron. 80°11′; Air 63°-54°; Water 77°-70°. Ship at Meridian in 21 fas. Standing by the wind in for the land.

Sunday, 27th [Novr.]. Commences with strong breeses from NNE to N with flying clouds. Standing on a wind course NWbW which by my calculation is the bearing of the Light House on Tybee Island distance about 45 miles.[28] At 7 pm made the light directly a head bearing NWbW distance about 15 miles which proves the Reckoning to be very accurate. At 8 pm being in 8 fas. water with the light bearing as above it was thought most prudent to Anchor throughout the night. And the ship was brought to anchor with the above Bearings & depth, with the intention of getting underway at day light in the morning. But at that hour there was a very thick fog which continued until 11 am and made it hazardous to stand in for the land. At ½ past 11 am the Fog cleared off. The Ship was got underway and stood in for the Land. At 2 pm a Pilot came on board, the Ship being then between 3 & 4 leagues from the Light House, Commr. Warrington, Capn. Biddle & myself got on board the Pilot Boat to go to Savannah from whence we intend to travel home by land. The Ship was ordered to stand in. At 9 pm we reached Savannah & put up at Miller's City Hotel, a House of excellent accommodations.

Monday, 28th Novr. Being too much fatigued to have left Savannah in the Stage that started at 5 O.C. this morning, and no other Stage leaving here for the North until Wednesday morning next, we are necessitated to remain until then. The City authorities and Gentlemen of the Place waited on us, congratulated our Arrival and invited us through a committee to a Public Dinner to be given tomorrow, which we accepted. We spent the remainder of the day in viewing this beautiful plan City Savannah.[29] And in which there are a great number of very fine buildings.

28. Tybee Island is located at the mouth of the Savannah River. Construction of the first Tybee lighthouse was one of the first undertakings of James Edward Oglethorpe, founder of the Colony of Georgia. It was completed in 1736. The second Tybee lighthouse was constructed in 1742, and in 1773 it was replaced by a third. The present-day Tybee lighthouse was constructed in 1869. For more details see Margaret Godley, *Historic Tybee Island* (Savannah Beach, Ga.: The Tybee Museum Association, 1976).

29. James Edward Oglethorpe and his followers arrived at Yamacrow Bluff on the Savannah River in February of 1733. In planning the city of Savannah, Oglethorpe systematically organized it into a series of squares which remain intact today.

At 4 O.C. Captain [Joseph W.] Jackson's, [30] the acting Mayor, and Captain [James] Hunter's[31] uniform companies marched to our lodgings and complimented us with various manouvers and a marching salute. They are splendid companies and move with military precision.

Tuesday, 29th Novr. At 12 O.C. the City Authorities with the Mayor at their head waited on us and kindly welcomed us in a very neat and flattering speech through their acting mayor, to which, I made, I hope, an appropriate reply. At 4 pm we sat down to an excellent Dinner which was exceedingly well conducted with excellent good toasts and appropriate music. The Reception we have met with in Savannah has been very flattering and truly hospitab[le].[32]

Wednesday, 30th Novr. At 4 am left Savannah in the Mail Stage for Augusta. No occurrences worth noting happened along the Road which is a very dreary one through Pine Barrens with scarcely any population and very bad accommodation. To add to the uncomfortableness of our ride, we had a NE storm with rain.

Thursday, 1st Decemr. At 11 am reached Augusta a flourishing place of considerable trade, and being the great entrepot for the extensive Country to the West of it, embracing Georgia, parts of South & North Carolinas, Kentucky, Tennessee & Alabama. Its exports last year were upwards of 3 Millions of Dollars. The Situation or Buildings are not comparable with Savannah. We put up at the City Hotel where we found very bad accommodations and very great imposition in charging. At 4 O.C. the Mayor and City Authorities waited on us and through their mayor General [William W.] Holt[33] congratulated our arrival and invited to us a Public Dinner on tomorrow. But as our time would not admit of our accepting the Invitation, it was declined through me in an appropriate reply. The NE storm still continues.

Friday, 2nd Decemr. The weather still stormy. At 4 am left Augusta in the Mail Stage for Columbia on our route to Washington City. At 9 pm put up at Leesville having been 17 hours riding 51 miles over good Roads. Found at Leesville a good house kept by a Col. [John W.] Lee.[34]

Saturday, 3 Decemr. The weather still continues stormy. At ½ past 3 am left Leesville. At noon arrived at Columbia and proceeded immediately on to Camden, where we arrived at 10 O.C. at night having been 19 hours getting 65 miles. Great part of the Road very good and none of it bad. Our tedious travelling since we entered South Carolina has proceeded from the mulish disposition of the drivers, for they have fine horses, but too fat. In no part of the U.S., and having traveled throughout the Atlantic states, have I experienced such imposition by the drivers or had such bad fare along the Road.

Sunday, 4th Decemr. The Mail not leaving Camden on Sunday necessitates us to remain here until tomorrow morning.

Monday, 5th [Decemr.]. At 3 am left Camden and at 7 pm arrived at Cheraw on the Pedee[35] where we found an excellent Hotel. Cheraw is a flourishing place. Here we met the Duke of Sax Wiemer [Weimar][36] who was on his

30. Acting Mayor Jackson was a member of the city administration headed by Mayor William C. Daniell. Jackson became mayor of Savannah on 11 September 1826. 'Joseph Webber Jackson (1796-1854) studied law and began practice at Savannah. Active in state and national politics serving in the state legislature and in the U.S. Congress. Captain of the Savannah Volunteer Guards.' *Savannah Morning News*, 30 September 1854, found in the 'Gordon B. Smith Notebook' in the possession of the Georgia Historical Society, Savannah, Georgia.

31. 'James Hunter. Savannah banker. Born in Ireland in 1780. Came to America at age 16. Elected Captain of the Savannah Fencibles on 13 September 1814, Commanded the unit during the War of 1812. Died at Savannah on 24 July 1863.' *Daily Morning News* [Savannah] 1 August 1863, found in the 'Gordon B. Smith Notebook.'

32. A newspaper account of the dinner stated that 'At the hour appointed for the dinner, yesterday, in honor of Commodore Bainbridge, Warrington and Biddle, as a mark of respect that the citizens of Savannah have for these distinguished heroes, upwards of seventy persons sat down to a sumptuous dinner at the City Hotel, prepared in Mr. Miller's best style. After the cloth was removed the following toasts were drunk, interspersed with songs, and accompanied by music from the band of the Savannah Volunteer Guard.' Thirty-five toasts were listed. *The Savannah Republican*, 30 November 1825.

33. This was most likely William White Holt. Among the tombstone inscriptions of Richmond County there is this entry: 'William White Holt/ July 4, 1788-January 11, 1863/ in the War of 1812-1815 a commissioned officer, Mayor of Augusta 1825-6, Legislator, Judge of Supreme Court.' Information provided by Virginia E. de Treville, archivist, Richmond County Historical Society, Inc., Reese Library, c/o Augusta College, Augusta, Georgia.

34. John Wingfield Lee was born in 1784 near the present town of Leesville, South Carolina. His father, Andrew Lee (1745-1807), operated a tavern where in 1791 George Washington was entertained on his tour of the South. This same tavern was operated later by the son. The title 'Colonel' undoubtedly was honorary or of the local militia. A state historical marker today marks the site in Leesville of the old inn, long since demolished. John W. Lee died in 1829 at age forty-five. Information provided by Horace E. Harmon, director, Lexington County Museum, Lexington, South Carolina.

35. The Great Pee Dee River separates present-day Chesterfield and Marlboro Counties. The town of Cheraw is located near the river.

36. 'In this place I met with Commodores Bainbridge and Warrington, and Captain Biddle; these gentlmen were appointed commissioners by the government; to determine a place for a naval establishment on the Gulf of Mexico, becoming every day a greater importance to the United States. They came from Pensacola to Savannah by sea, whence they went to Washington by land. I was very much pleased with their acquaintance and spent the evening with them.' Karl Bernhard, Duke of Saxe-Weimar-Eisenach, *Travels through North America, during the years 1825 and 1826* I (Philadelphia; Carey, Lea & Carey, sold in New York by G. & C. Carvill, 1828), 207.

way to New Orleans. Found him to be a very pleasant genteel man. Gave him a letter of introduction to my friend Col. Clinch, military commandant at Pensacola.

Tuesday, 6th Decemr. At 3 am left Cheraw and arrived at Fayettville at 7 pm where we found an excellent Hotel, 'Lafayette,'[37] which was very acceptable, as we had found most miserable accomodations & fare along the road so far on our Journey. At this place parted with Commr. Warrington who proceeds from hence to Norfolk.

Wednesday, 7th [Decemr.]. At 6 am left Fayettville and at 7 pm arrived at Raleigh the Capital of the state of North Carolina. The Legislators were in session at that place. Several of them of both Houses called on us at the Tavern [and] solicited us to remain a day with them, which our time would not admit of our doing. They accompanied us to the State House which they had lighted up for the purpose of our seeing the Statue of Washington by [Antonio] Canova[38] and which had been brought to this Country in the Columbus 74[39] under my command. *Thursday*, 8th Decemr. At 2 am left Raleigh and travelled all day, all night and until Friday at 2 pm when we reached Petersburg in Virginia.

37. When Marquis de Lafayette visited the city on 4 March 1825, a military ball was held at the hotel. A fire in 1831 destroyed the hotel along with much of the town. Information provided by Mrs. William D. Sherman, president, Cumberland County Historical Society, Fayetteville, North Carolina.

38. In 1821, the renowned Italian sculptor Antonio Canova completed a statue of George Washington for the state of North Carolina. The statue was taken aboard the ship *Columbus*, flagship of the U.S. Mediterranean Squadron, at the Italian port of Leghorn for its journey to the United States. It was unveiled in the State House in Raleigh on 24 December 1821. In 1831, the Capitol burned and the statue was destroyed. Interest in the statue was renewed in 1957 when it was discovered that Canova's final working model still existed in Italy. The statue was later resculptured and, since 1970, has been the centerpiece of the rotunda of the North Carolina State Capitol. For further information see Nancy G. Neville, 'The Canova Statue Jinx,' *The State* (magazine), Raleigh, North Carolina (1 February 1968), pp. 11, 22.

39. '*Columbus* was a 74-gun ship; dimensions, length 193' 3'' between perpendiculars; moulded beam 52'; depth in hold 21' 10''; 2480 tons; 780 men; builder, Washington Navy Yard; laid down June 1816; launched 1 March 1819; burned in Norfolk Navy Yard, 20 April 1861.' Chapelle, *History Sailing Navy*, p. 535.

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The Confederate Naval Squadron at Charleston and the Failure of Naval Harbor Defense

By Paul D. Lockhart

EFFORTS to assemble a naval force in Charleston Harbor began immediately after the secession of South Carolina on 20 December 1860. In the four-month period between South Carolina's departure from the Union and the fall of Fort Sumter to the Confederates, several small vessels were hastily gathered together by state authorities with the intention of creating a flotilla that would be able to prevent Federal attempts to relieve or reinforce the beleaguered Sumter garrison. With the creation of the Confederate Navy Department in February 1861 and the capitulation of Fort Sumter that April, however, the Charleston squadron began to take on a much greater responsibility—that of the naval defense of the harbor. Throughout the Civil War, the Confederate navy was to follow a policy of strategic defense that not only coincided with Confederate military strategy as a whole, but which was also necessitated both by its limited available technology and by its paucity of essential industrial, material, and human resources. The blockade imposed by the Union navy on the Atlantic and Gulf coasts of the South threatened to completely deprive the fledgling Confederacy of desperately needed supplies that could only be obtained through maritime commerce with European nations. In addition, key harbors, rivers, and other waterways would have to be protected against the inevitable attempts by the Union armed forces to retake them. For these reasons, a naval force that was adequate to defend major water transportation routes was a necessity that the Confederate government could ill afford to ignore if it were to survive.[1]

Since the accessibility of the port of Charleston was essential to the well-being of the Confederacy, the need to defend it was imperative. The Confederate government perceived this need clearly, particularly after the fall of Port Royal, South Carolina to a combined Union force on 7 November 1861. The harbor at Port Royal, only fifty miles distant from Charleston, provided the Federal navy with a beautifully situated base for offensive operations against the Atlantic coastal ports. With the enemy so near in great force, the Confederates quickly took steps to create a formidable harbor defense squadron at Charleston. Because of the technological and industrial limitations imposed on naval construction in the Confederacy, however, the warships constructed for harbor defense at Charleston were to prove to be far inferior to most Union naval vessels of the same class, and were therefore unable to engage in meaningful combat with them. Denied offensive action against the Federal blockading vessels off Charleston, the squadron was relegated to a passive defensive role in which it accomplished little.

The vessels that were confiscated or otherwise procured by South Carolina officials to assist in the 'quarantining' of Union-held Fort Sumter in early 1861 hardly constituted a very formidable squadron. The first three vessels to be seized—the revenue cutter *William Aiken*, the lighthouse tender *Governor Aiken*, and the coast-survey schooner *Crawford*—were described as 'being of such small value as scarcely to be worth seizing. . . . They were all sailing vessels, and carried less than half a dozen light guns among them.'[2] Less than a month later, *General Clinch*, an aging 256-ton sidewheel steamer, was armed with two light cannon and became the first warship to be commissioned in the South Carolina State Navy, one of several embryonic state navies that had sprung up in various Southern ports previous to the establishment of the Confederate Navy Department that February.[3]

Since this squadron was puny and incapable of any major combat, its formation constituted more an act of

1. W. N. Still, Jr., *Confederate Shipbuilding* (Athens: University of Georgia Press, 1969), p. xi.

2. J. T. Scharf, *History of the Confederate States Navy* (New York: Rogers and Sherwood, 1887), II, 655-56.

3. Ibid., pp. 656-57; *Daily Mercury* (Charleston), 27 July 1860; H. Loring to G. Welles, 11 May 1861, Confederate Area 8 File, Record Group 45, National Archives, Washington, D.C.; *Civil War Naval Chronology* (Washington: U.S. Government Printing Office, 1961-1966), VI, 232.

defiance than a serious attempt at defending the harbor, and its use in the harbor was accordingly limited. What efforts the squadron did attempt were directed solely at the prevention of the reinforcement of the Sumter garrison. Two Confederate steamers and *William Aiken* figured prominently in the attack on *Star of the West,* an unarmed Federal steamer which attempted to reach Sumter with provisions and reinforcements on 9 January 1861.[4] The state navy soon acquired another vessel, the 250-ton iron-hulled tugboat *James Grey*. After being refitted and armed with two small cannon, she was rechristened *Lady Davis*. Although *Lady Davis* served for a brief period in the South Carolina navy, she was taken into the possession of the newly formed Confederate States Navy, and placed under the command of Henry J. Hartstene early in April. Hartstene consolidated the state and Confederate vessels in the harbor into one squadron and made *General Clinch* his flagship. With the addition of the sidewheel coastal packet *Gordon,* the squadron set up a permanent watch on all vessels attempting to enter Charleston Harbor, searching those that might be considered 'suspicious.' Hartstene received three more steamers after 9 April—*Charleston, Catawba,* and *William Seabrook;* each of these was given a complement of infantry and was added to the harbor guard. The squadron, however, took no part in the actual bombardment of Fort Sumter, which commenced early in the morning of 12 April 1861; the squadron's officers, being free to perform other, more necessary, duties, greatly aided in directing the fire of the shore batteries.[5]

The zeal for naval activity increased at Charleston immediately after the fall of Fort Sumter; however, it seems that a far greater effort went into developing the more financially attractive prospects of privateering than into the building of a harbor-defense fleet. At least five letters of marque were issued to private shipowners in 1861, although none of the ships so commissioned met with a great deal of success. The two most successful Charleston privateers, the schooner *Dixie* and the steamer *Gordon,* were able to capture a total of five prizes by the end of July 1861. Another Charleston privateer, *Petrel* (formerly the revenue cutter *William Aiken,* one of the Federal vessels seized after the secession of South Carolina), was not so fortunate. Sallying forth from Charleston eighteen days after receiving her letter of marque, she encountered the powerful fifty-gun Union frigate *St. Lawrence,* and a chase ensued. After heaving to and impudently firing three shots at the large warship, *Petrel* was immediately struck by a full broadside from the Union vessel, which sent her to the bottom in half an hour. Thirty-six of her thirty-eight crewmen were rescued and sent to Philadelphia to stand trial for piracy.[6]

Such occurrences, however, were rare; naval activity in Charleston Harbor remained relatively stagnant throughout most of 1861. The fall of Port Royal to Federal forces on 7 November, and the ensuing establishment of a major Federal naval base there, however, most definitely changed the current local attitudes towards Charleston's naval defenses. Not only did the capitulation of Port Royal demonstrate the vulnerability of the Confederate ports on the Atlantic coast to the increasingly effective Atlantic Blockading Squadron, but also the establishment of a naval base there provided the Union navy with an excellent jumping-off point for further expeditions against Confederate ports, particularly Port Royal's closest neighbor, Charleston. The Charleston newspapers had been continuously railing against the inactivity of the navy department in building ironclad gunboats with which to defend the harbor, but only now was higher authority alerted to this 'necessity.'[7]

Now perceiving a definite need for a defensive fleet, the Confederates soon began to follow the example of other southern ports in constructing a small naval force of powerful ironclad gunboats. Since the Confederacy lacked an adequate number of conventional naval vessels or the facilities with which to construct them, technological innovation was substituted for superior numbers, and ironclad warships were built in harbors and inland waterways all over the Confederacy. Unfortunately, it is very difficult to determine, due to the notorious scarcity of Confederate naval records and the vague or routine nature of those that do exist, exactly when the construction of ironclads commenced at Charleston. Capt. Duncan N. Ingraham of the Confederate States Navy, formerly a lieutenant in the United States Navy, was sent to Charleston in November 1861 with orders to negotiate contracts with private naval constructors for the building of gunboats for the navy

4. J. T. Scharf, *History,* II, 657.

5. *Civil War Naval Chronology,* VI, 259, 315; J. T. Scharf, *History,* II, 658-60; U.S. War Department, *The War of the Rebellion: A compilation of the Official Records of the Union and Confederate Armies* (Washington; U.S. Government Printing Office, 1880-1901), Series I, Vol. I, 296-99 (hereafter cited as *O.R.*).

6. J. T. Scharf, *History,* II, 662; *Civil War Naval Chronology,* I, 20, VI, 221-22, 281, 315, 328-29; *Daily Dispatch* (Richmond), 12 August 1861.

7. *Daily Mercury,* 20 February 1861.

and to supervise the construction of these vessels. Work on the first of the ironclads to be constructed at Charleston, later known as *Palmetto State*, commenced sometime between January and March 1862. This gunboat was built on contract for the Confederate navy at Marsh's shipyard, and its construction was supervised by Ingraham.[8]

The second of the first two Charleston ironclads was not built for the Confederate government, but rather for the state of South Carolina. In February 1862, a state military committee, which had been appointed by the South Carolina State Assembly the previous December, instituted a state ironclad program. The South Carolina Executive Council appropriated $300,000 for the construction of an ironclad gunboat, and the committee queried the Confederate secretary of the navy, Stephen R. Mallory, regarding the building of such a vessel. Mallory characteristically discountenanced this local effort to construct a warship, and the committee was summarily disbanded by the assembly, despite the constant harangues of the Charleston press. Matters took a turn for the better when Captain Ingraham was given complete charge over naval affairs in South Carolina waters in March 1862. Ingraham was now able to convince both the state assembly and the naval secretary to moderate their views, and the revived state marine battery commission entrusted Charleston machinist James M. Eason with the construction of a second 'marine battery' of a design similar to that of the ironclad already being constructed under navy supervision. The keel of this vessel, later christened *Chicora,* was laid in the shipyard of the Jones Brothers, probably in the latter part of March 1862.[9]

The construction of the two ironclads progressed rather slowly. Both Eason and Marsh, despite Ingraham's best efforts, encountered much difficulty in trying to overcome problems that seemed to beset nearly every southern attempt at naval construction, almost all stemming directly from material shortages. Work on both vessels moved along at a generally satisfactory pace until June, despite a few minor delays. There was an acute shortage of timber suitable for naval construction, and after Ingraham had vainly sought to purchase a sufficient quantity of it from local planters, the state assembly permitted the shipwrights to cut timbers 'wherever most accessible,' provided that no 'shade or ornamental trees' were cut without the owner's permission. Despite this, the building of *Chicora* had apparently progressed so far by 20 June that John L. Porter, the Confederate chief naval constructor, was compelled to write Eason:

> It affords me great pleasure to state that the iron-clad gunboat and ram which you are now building for the State Commission . . . is a very good job in all respects, and of the very best material . . . The work has progressed with great rapidity, and in advance of . . . the one being built for the C.S. Navy at this place [*Palmetto State*]. I was very much gratified at . . . the spirit with which everything seemed to move, and can only hope that you will soon finish her.[10]

Eason, however, was not so impressed with his own work; five days later he wrote Secretary Mallory of his embarrassment at the lack of available materials for *Chicora*, and conjectured that he would have the gunboat completed well ahead of schedule if only he could procure some iron plate with which to armor her.[11]

These delays in construction, though, only seemed to become worse. Both builders encountered much difficulty in obtaining iron for the gunboats' armor. Money was forwarded to the Atlanta firm of Scofield and Markham in May 1862 for more than 343 tons of two-inch-thick iron plate, nearly all of which was ready for shipment to Charleston. It would be a fairly long time, however, before this iron would reach Charleston, due to two rather maddening delays. Not only did the Confederate army refuse to tender the required number of railroad cars for the transportation of the iron plates to Charleston, but the delay was further compounded by the inability of the Confederate treasury to promptly pay the debts incurred in the procurement of the iron.[12]

For some inexplicable reason, Eason's vessel, despite the fact that its keel had been laid nearly two months after that of *Palmetto State,* was completed well ahead of her sister gunboat. She was launched on 23 August 1862

8. W. N. Still, Jr., *Iron Afloat: The Story of the Confederate Armorclads* (Nashville: Vanderbilt University Press, 1971), pp. 81, 83; *Civil War Naval Chronology*, VI, 279; J. T. Scharf, *History*, II, 670; J. Marsh to C.S. Navy, 21 January 1862, Confederate Subject File AC, National Archives Record Group 45.

9. W. N. Still, *Iron Afloat*, p. 81; E. M. Burton, *The Siege of Charleston, 1861-1865* (Columbia: University of South Carolina Press, 1972), p. 124; J. T. Scharf, *History*, II, 670-71; *Daily Mercury*, 6, 12 March 1862, 11 October 1862.

10. J. T. Scharf, *History*, II, 671.

11. *Daily Courier* (Charleston), 3 April 1862; Still, *Iron Afloat*, pp. 81-82.

12. C.S. Navy to Scofield and Markham, 25 April 1862 and 17 May 1862, and Scofield and Markham to S. R. Mallory, 17 May 1862, Confederate Subject File AC, National Archives Record Group 45; W. N. Still, *Iron Afloat*, p. 81.

with little ceremony, although the governor and several other dignitaries were present. The gunboat was christened *Chicora;* the executive council had instructed the marine battery commission to select the name. *Chicora* cost South Carolina the relatively low sum of $263,892; Eason, in recognition of his promptness and efficiency, was awarded a substantial bonus of $3,000 by the state. *Chicora* was turned over to the Confederate government by order of the state assembly, for which South Carolina was to be reimbursed; however, the Confederate treasury again seems to have been less than prompt in paying its debts. James Chesnut, Jr., of the executive council, wrote an unknown Confederate official on 5 November 1862 that 'some of the Council desire to know why it is that the Government at Richmond is not ready to pay for the *Chicora*.'[13]

Meanwhile, Marsh was not far behind in completing *Palmetto State*. She was subject to much the same material shortages as her sister ship had been; her commissioning, however, was apparently delayed further by other difficulties. Although her engines had been installed by mid-September, her launching was delayed because the water off the ways was much too shallow, and over two thousand tons of mud had to be removed from the bottom of the Cooper River before she could be launched.[14]

The launching of *Palmetto State,* which finally took place on 11 October 1862, was a much more ostentatious affair than the launching of *Chicora* had been, due chiefly to the unusual manner in which funds were raised for her construction by the female populace of South Carolina. The Charleston *Daily Mercury* of 27 February 1862 contained the letter that probably started the 'gunboat mania'; one Charleston lady asked of the editor, 'Cannot the women of Charleston give an order for a gunboat?' The response was as immediate as it was widespread. Contributions came in to Charleston from all over the state; one Columbia firm sent $200 in Confederate bonds to the office of the Charleston *Courier,* stating that they felt it far better to 'spend our last dollar as a means of resistance than to suffer subjugation.'[15] At least two 'gunboat fairs' were held in Charleston during the spring of 1862. Mary Boykin Chesnut, the famous Charleston diarist, noted that a sum of $2,000 in contributions was collected in one such fair on 14 April. The *Mercury* claimed that over $30,000 had been contributed to the gunboat funds in both the *Mercury* and the *Courier,* and noted that 'some four or five hundred dollars worth of jewelry, paintings and other valuables yet remain to be raffled or otherwise disposed of, for the benefit of the Gunboat.'[16]

The actual launching of *Palmetto State* was a rather overtly gaudy affair. The Charleston papers announced the occasion more than a week in advance, so 'that ladies from every part of the State may have the opportunity of gracing the occasion with their presence.'[17] The launching, set for noon on 11 October, was attended by Gen. Pierre G. T. Beauregard (who had recently assumed command of the Department of South Carolina, Georgia, and Florida), Brig. Gen. S. R. Gist, Captain Ingraham, and a 'large concourse of spectators, among whom there was an overwhelming preponderance of the fair sex.' After a brief oration by Col. Richard Yeadon, Ingraham, representing the navy department, was presented with a check for the $30,000 raised by the gunboat funds. The unidentified young lady who had first proposed the funds in the *Mercury* broke a bottle of wine over the beak of the ironclad, and Yeadon baptized the 'noble boat . . . in the name of the patriotic ladies of South Carolina.' *Chicora,* with Eason on board, steamed up from the lower wharves past *Palmetto State,* and the gala affair ended as the female spectators were invited to partake of a 'bountiful collation' in Marsh's workshops.[18]

Charleston's new ironclads were built in accordance with a design that somewhat approximated the general appearance of the famous Confederate ironclad ram CSS *Virginia,* although they were considerably smaller. Both vessels were based on Chief Naval Constructor John L. Porter's design for a 'harbor-defense' ironclad ram, measuring 150 feet in length, 14 feet in depth of hold, 12 feet in draft, and approximately 35 feet in beam. Atop the main deck was an armored casemate—a flat-topped rectangular structure, constructed of twenty-two-inch-thick walls of oak and pine, nearly 100 feet in length—in which the gunboat's armament was housed. Both vessels were burdened with the same amount of armor: the main deck was plated with two inches of iron, and the sides of the casemate were covered with two layers of two-inch

13. J. Chesnut, Jr., to unknown, 5 November 1862, Confederate Vessel File, National Archives Record Group 109; E. M. Burton, *Siege of Charleston,* p. 25; W. N. Still, *Iron Afloat,* p. 82; J. T. Scharf, *History,* II, 671.

14. W. N. Still, *Iron Afloat,* p. 82.

15. E. M. Burton, *Seige of Charleston,* p. 124.

16. *Daily Courier,* 27 February 1862; M. B. Chesnut, *A Diary from Dixie* (Boston: Houghton Mifflin Company, 1949), pp. 211-12; *Daily Mercury,* 30 October 1862.

17. *Daily Mercury,* 3 October 1862.

18. *Daily Mercury,* 13 October 1862; voucher, 4 January 1863, Confederate Subject File AC, National Archives Record Group 45.

plate. It has been estimated that nearly five hundred tons of iron plate were used in the armoring of *Chicora* alone.[19] The armor of both *Palmetto State* and *Chicora* was painted a 'pale blue or bluish-grey.'[20]

The two ironclads were heavily armed. It is impossible to determine exactly what types of weapons were carried on board the ironclads, as the small number of 'eyewitness' accounts that exist tend to disagree. Both of these vessels probably carried four large cannon apiece. The overwhelming majority of published sources and Charleston naval ordnance vouchers show that each gunboat was armed with two IX-inch Dahlgren shellguns, one mounted on each side of the casemate. These were powerful monsters, capable of hurling a 73.5-pound explosive shell nearly 3,500 yards.[21] The cannon that were mounted in the fore and aft positions in the casemate were probably seven-inch rifled cannon of some type. The cannon mounted in these positions could be pivoted about, enabling them to be fired through either the end ports or through additional gunports in the port and starboard sides of the casemate.[22]

Perhaps the most memorable aspect of the two ironclads was that of their notoriously ineffective engines. The testimony of Confederate deserters from the squadron always make specific mention of the poor quality of the gunboats' makeshift power plants and machinery. Although there were a number of foundries in the Confederacy capable of manufacturing large marine engines—the Tredegar Iron Works and the Shockoe Foundry in Richmond, the Noble Foundry in Rome, Georgia, and the Clarke Foundry in New Orleans being among the most notable[23]—such steam engines were in short supply. Indeed, the two Charleston ironclads were forced to rely upon an expedient often utilized in building warships for the Confederacy: making use of the engines of older commercial steamships. In order to supply the ironclads with power plants, the engines of *Lady Davis* (the armed tugboat that had formerly been a part of the squadron) and of the small steamer *Aid* were removed and installed aboard *Palmetto State* and *Chicora* respectively. These two engines were apparently somewhat similar, each having a thirty-inch bore and a twenty-six-inch stroke, driving a single three-bladed propeller eight feet in diameter.[24]

Unfortunately for the Confederates (yet fortunately, perhaps, for the Federal blockading squadron, as later events would indubitably demonstrate), engines that were satisfactory for tugboats and small steamers were not necessarily adequate for the bulky and monstrously heavy ironclads. The admittedly makeshift engines and boilers on both *Chicora* and *Palmetto State* were constantly undergoing repairs throughout the remainder of the war. *Chicora* had particularly poor boilers; between April 1863 and January 1864 she required more than forty days of boiler repairs before one of her boilers was finally replaced, having been subject to countless patchings. Such repairs were quite costly—the navy department was charged nearly $4,000 for boiler repairs made on *Chicora* on one day in December 1863.[25]

Accounts of the actual speed of the gunboats vary, but all indicate that both *Palmetto State* and *Chicora* were ludicrously sluggish. *Palmetto State* was generally acknowledged as being the swifter of the two; in a trial run held in the Cooper River in December 1862, she was observed to have 'made seven knots an hour running with the stream, and four knots an hour steaming against it.'[26] Later accounts estimated her speed at five to six knots in calm water. *Chicora* was generally capable of maintaining speeds of one to four knots. Robert Cross, a coxswain aboard *Chicora,* stated that *Chicora*'s boilers were so weak that 'she can hardly stem the tide.'[27] Capt. F. D. Lee, an army engineer officer stationed at Charleston, informed Beauregard that, in one instance, *Chicora* had been forced to drop her anchor while on picket duty in the channel between Fort Moultrie and Fort Sumter, since her engines, which were being kept at full power, were insufficient to keep her from drifting with the outgoing tide.[28]

19. J. T. Scharf, *History*, II, 670-71.

20. W. H. Parker, *Recollections of a Naval Officer* (New York: Charles Scribner, 1883), p. 292.

21. Warren Ripley, *Artillery and Ammunition of the Civil War* (New York: Promontory Press, 1970), p. 370.

22. *Civil War Naval Chronology*, VI, 211, 279; J. T. Scharf, *History*, II, 671; W. H. Parker, *Recollections*, p. 288; U.S. Navy Department, *Official Records of the Union and Confederate Navies in the War of the Rebellion* (Washington: U.S. Government Printing Office, 1894-1927), Series I, Vol. XV, 677 (hereafter cited as *O.R.N.*); ibid., Series II, Vol. I, 250, 262; vouchers, 4 August, 5 September 1862, Confederate Area 8 File, National Archives Record Group 45; voucher, 1 November 1862, Confederate Subject File AC, National Archives Record Group 45.

23. W. N. Still, *Confederate Shipbuilding*, p. 25.

24. *O.R.N.*, Series I, Vol. XIII, 447; voucher, 18 June 1862, Confederate Subject File AC, National Archives Record Group 45; *Civil War Naval Chronology*, VI, 259; J. T. Scharf, *History*, II, 670.

25. Vouchers, 17 April, 18 August, 3 December, 14 December 1863, 1 January, 30 January 1864, Confederate Subject File EE, National Archives Record Group 45.

26. *Daily Mercury*, 17 December 1862.

27. *O.R.N.*, Series I, Vol. XII, 649-50; ibid., Series I, Vol. XIII, 447.

28. F. D. Lee to P. G. T. Beauregard, 8 February 1864, quoted in W. N. Still, *Iron Afloat*, p. 115.

The gunboats did have some redeeming features, however. Lt. William H. Parker, executive officer of *Palmetto State*, fairly praised both vessels:

> Both were well-built, creditable vessels. All their arrangements were good, magazines, shell-rooms, quarters, etc., all admirably arranged . . . When these two vessels had been in commission a short time, they were fine specimens of men-of-war and would have done credit to any navy. They were well officered and manned. Their drill at both great guns and small arms was excellent, and the discipline perfect. They were the cleanest iron-clads, I believe, that ever floated, and the men took great pride in keeping them so.[29]

The crews of the two ironclads, and of the naval station and squadron in general, were unusual. A very high percentage of the enlisted personnel were either of foreign birth or of foreign descent. The city of Charleston had a particularly large Irish population, and the muster rolls of the squadron reflect this. At least three free black men were also enrolled on board *Chicora*. Perhaps the most unique feature of Charleston's naval personnel, however, was the large number of experienced seamen and naval officers serving aboard the ironclads. Probably well over one-quarter of the squadron's officers had seen prewar service with the United States Navy. Some, such as Lts. William Glassell and George Bier, had become midshipmen in the late 1840's and attained the rank of lieutenant by the mid-1850's; the majority of these officers, however, never obtained their commissions. The two men who were to command the squadron throughout the war, Duncan Ingraham and John R. Tucker, were considerably more experienced. Ingraham had become a midshipman in 1812, had risen to the rank of lieutenant by 1825, that of commander by 1841, and had achieved his captaincy in 1855. Tucker, only slightly less senior than Ingraham, had become a midshipman in 1826, a lieutenant in 1837, and a commander in 1855.[30]

There was apparently some difficulty in procuring adequate manpower for the squadron. Recruiting for the navy at Charleston began late in September 1862, the *Mercury* publishing an advertisement for 'Seamen, Ordinary Seamen, Landsmen, Boys, First and Second Class Firemen, and Coal Passers.'[31] Response to this call was unsatisfactory, and Ingraham was forced to request assistance in acquiring sufficient crews for his vessels from the army officers who had commands in the vicinity. Beauregard ordered his subordinates to list the names of experienced sailors in their respective commands, and the response was favorable—twenty-four ordinary seamen were transferred from army units to *Chicora* by the end of 1862. *Palmetto State* received thirty-two such transfers during this same period, although four of these were 'condemned by medical survey,' presumably being deemed unfit for naval service.[32] Parker noted that *Palmetto State* 'occasionally . . . got a man from the army,—and we kept a bathing arrangement on the wharf, where all recruits were bathed and their clothes well boiled before being allowed to come on board, for obvious reasons.'[33]

It is hardly surprising that so much difficulty was encountered in filling up the ironclad's complements when one considers the conditions under which the crews of the Confederate ironclads functioned. Although probably better fed than their counterparts in the army—sailors in the Charleston squadron could expect to receive fourteen ounces of hard bread and one and one-quarter pounds of fresh or salt beef daily, and frequent issues of coffee and fresh whiting—the sailors worked under conditions which were by no means superior to those encountered by Confederate soldiers. The Charleston gunboats were, like most Confederate ironclads, extremely miserable environments in which to live and toil. The hopelessly insufficient amount of fresh air that entered the interior of the ironclads could come in only through the hatch gratings on the spar deck and the gunports in the casemate sides. A high incidence of sickness and desertion often resulted, and in the Charleston squadron both of these problems were fairly serious. In the nine-month period between 1 January and 1 October 1863, the Naval Hospital in Charleston handled at least 619 cases of illness from the ironclads alone (not including those from the naval station ashore and CSS *Indian Chief*, the squadron's receiving ship), one of whom died. Estimating the average complement of either of these ironclads at 146 officers and men, this means that, on the average, each man on board *Chicora*

29. W. H. Parker, *Recollections*, pp. 288-89.

30. Muster rolls, CSS *Chicora* and CSS *Palmetto State*, December 1862-September 1863, National Archives Record Group 109; W. H. Parker, *Recollections*, pp. 288-89; E.W. Callahan, ed., *List of Officers of the Navy of the United States and of the Marine Corps from 1775 to 1900* (New York: L. R. Hamersly, 1901), pp. 289, 552; U.S. Navy Department, *Register of Officers of the Confederate States Navy, 1861-1865* (Washington: U.S. Government Printing Office, 1931), *passim*.

31. *Daily Mercury*, 20 September 1862.

32. W. N. Still, *Iron Afloat*, p. 114; muster rolls, CSS *Chicora* and CSS *Palmetto State*, 31 December 1862, National Archives Record Group 109.

33. W. H. Parker, *Recollections*, p. 292.

and *Palmetto State* was sick at least two times in nine months![34]

A further possible reason for the difficulty encountered in recruiting trained seamen for the squadron is that many may have been attracted by the possibilities for wealth and adventure that were offered by privateering and blockade-running. As noted earlier, Charleston was perhaps the second-largest privateering port in the South, and a sailor signing aboard a vessel commissioned by letter of marque had far greater opportunities for profit and sport than did a sailor enlisting for three years' service aboard an ironclad gunboat intended chiefly for harbor defense. This conjecture is borne out in part by a letter from Ingraham to one of his midshipmen, ordering him to inspect the crew of the Savannah privateer *Rattlesnake*, which Ingraham believed had a rather substantial number of the crew of *Palmetto State* aboard her.[35]

The time soon came for the new warships to prove themselves in battle. By December 1862, the Federal blockading fleet off Charleston had substantially increased in numbers, and had tightened its cordon around the port sufficiently to cause a significant decrease in the amount of foreign shipping that was able to enter or leave the harbor. Beauregard, the Charleston populace, and the squadron's junior officers demanded that some sort of action be taken to prevent the complete sealing-off of the port. Soon a number of Federal ironclads would be taking their places in the blockade, not only rendering the blockade nearly impermeable, but also constituting a potential threat to the safety of the harbor and of the city itself. Beauregard clearly desired a confrontation between the Confederate ironclads and the wooden vessels of the blockading squadron. Ingraham put off this proposed expedition for fear of the rough waters off the bar, as the weather had been quite bad that December and January. Since the rams were rather unstable even in the relatively calm waters of the harbor, it was fairly risky to venture over the bar into the open sea, where the blockaders lay.[36]

Ingraham's junior officers, among others, soon began to question the squadron's purpose, for Ingraham's apparent reluctance to attack enemy warships was quite obvious. On 28 January 1863, both of the Charleston daily newspapers published an anonymous letter reflecting this:

> Why is it, with gunboats at this port, well-armed, manned and officered, 'spoiling for a fight' we do not clear the blockade? Why is it that so much of material, gallant officers and men, and scientific accomplishments and preparations, should be wasted in doing nothing, and should not protect the very large and singularly important trade to this port, in its egress and ingress?[37]

Lt. George H. Bier, an officer on *Chicora*, was considerably more direct in his criticism:

> General Beauregard . . . seems to be very sanguine as to the result of a fight here. I do not think much of the Commodore in charge here [Ingraham]. The 'Chicora' and 'Palmetto State' are both ready to go down and meet the enemy and altho' no time could be better than the present for raising the blockade yet he will not give the order. Beauregard told me that some time since the English and French commandant[s] had told him that if he would send these vessels down and raise the Blockade for twenty hours they would . . . proclaim the Blockade raised—that he had suggested it to Ingraham but that he was afraid that the motive power or the vessel[s] was not great enough. How in the Devil is he going to find that out unless he tries[?] I suppose he will wait until the Yankees have accumulated three or four of their heavy ironclads and then send us to certain destruction or cause us to make a miserable failure.[38]

Bier later complained to the same friend, 'What in the mischief is the use of our building these invulnerable vessels, or at least what are supposed to be invulnerable vessels if they are to be stow'd away out of harm's way all the time?'[39]

Despite Ingraham's hesitation in attacking the blockading squadron, the ironclads were slowly but surely being made ready for action in the closing days of 1862. Throughout December and January 'the uniform of the Confederate Navy became more conspicuous about the streets, workshops and wharves, drafts were made upon the receiving ship *Indian Chief* to fill up the crews of the *Palmetto State* and the *Chicora*, and Commodore Ingraham and General Beauregard were in long and frequent consultation.'[40] Preparations were complete by

34. *O.R.N.*, Series I, Vol. XV, 227; vouchers, 10 October 1862, 16 June 1863, Confederate Subject File XN, National Archives Record Group 45; *O.R.N.*, Series II, Vol. II, 562.
35. D. N. Ingraham to C. Cary, 22 November 1862, Confederate Area 8 File, National Archives Group 45.
36. W. H. Parker, *Recollections*, pp. 193-94.
37. *Daily Mercury*, 28 January 1863.
38. G. H. Bier to 'George,' 26 January 1863, Confederate Area 8 File, National Archives Record Group 45.
39. G. H. Bier to 'George,' 29 January 1863, Confederate Area 8 File, National Archives Record Group 45.
40. J. T. Scharf, *History*, II, 674.

30 January 1863, when the crews of the two ironclads were observed to be painting the gunboats' armored shields with a greasy slush. Since a similar substance had been applied to the outside of the ironclad ram CSS *Virginia* before her attack on the Federal warships in Hampton Roads the March previous, it was obvious to many that some sort of venture was imminent.[41]

The anticipated attack was not long in coming. At ten o'clock that night, Ingraham arrived on board *Palmetto State*, his flagship, and at eleven-fifteen *Palmetto State* cast off from the Naval Station wharf on the Cooper River, *Chicora* following fifteen minutes later. The two gunboats were accompanied by the steam tenders *Chesterfield, Etiwan,* and *General Clinch*, each carrying fifty men armed with muskets. The two rams and their escorts steamed slowly for the bar on the main ship channel, which was eleven miles distant. Evidently the crews were quite nervous, as Parker had 'ordered the hammocks piped down,' so that the men could rest before the oncoming clash, but 'the men declined to take them, and I [Parker] found they had gotten up an impromptu Ethiopian entertainment . . . [and] the captain let them enjoy themselves in their own way.'[42]

At approximately three-thirty a.m. the flotilla reached the Beach Channel, and the crews were called to quarters, the men standing 'silently at their guns.' Parker remembered the scene vividly:

> The port shutters were closed, not a light could be seen from the outside, and the few battle-lanterns lit cast a pale, weird light on the gun-deck. My friend Phil. Porcher [a lieutenant aboard *Palmetto State*], who commanded the bow-gun, was equipped with a pair of white kid gloves, and had in his mouth an unlighted cigar. As we stood at our stations, not even whispering, the silence became more and more intense. Just at my side I noticed the little powder-boy of the broadside guns sitting on a match-tub, with his powder-pouch slung over his shoulder, fast asleep . . .[43]

The two ironclads crossed the bar an hour later, the tenders remaining behind. Indeed, the gunboats barely made the crossing; Ingraham reported that *Palmetto State* went over the bar with a mere foot and a half to spare. Almost immediately Ingraham spotted an enemy vessel: USS *Mercedita*, a small screw steamer, armed with nine heavy guns. *Palmetto State* headed directly for her. The executive officer and the acting master of *Mercedita,* who were on deck at the time, soon descried the dim form of the Confederate flagship and called the crew to quarters. *Mercedita*'s commander, Capt. Henry S. Stellwagen, having been notified of the intruder's presence, ordered that the ship's cannon be trained on the approaching craft, although he believed it to be a tug. Observing that the two vessels were in danger of colliding, Stellwagen hailed the oncoming steamer: 'Steamer ahoy! Stand clear of us and heave to! What steamer is that?' Receiving no answer to his hail, he called again. 'You will be into us! What steamer is that?' The captain heard a voice shout 'Halloo!' and several other unintelligible replies, followed by a shout of 'This is the Confederate States steam ram—!' Stellwagen later recounted, 'I gave the order to ''Fire, fire!'' but no gun could be trained on him, as he approached on the quarter.' *Palmetto State,* whose prow, like that of *Chicora,* was furnished with a large iron beak (hence the term 'ram'), struck *Mercedita* on her starboard quarter. As she struck *Mercedita*'s side, the ironclad fired a shell from her seven-inch bow gun, which passed diagonally through the ship's hull, 'penetrating the starboard side, through [the] Normandy condenser, the steam drum of [the] port boiler, and exploding against the port side of [the] ship, blowing a hole in its exit some 4 or 5 feet square.'[44]

Not only did the ironclad's one lucky shot totally disable *Mercedita,* but it also caused a surprising number of casualties. A gunner was killed by the explosion of the shell while in his stateroom on the blockader, and six men were scalded by the steam escaping from the punctured steam drum, three of them mortally. Immediately after striking *Mercedita, Palmetto State* swung around and someone aboard her called out, 'Surrender, or I'll sink you! Do you surrender?' Stellwagen, his vessel motionless and apparently sinking, and his guns unable to bear on his assailant, had no choice but to accept the offer. Having surrendered his vessel, Stellwagen ordered his executive officer, Trevett Abbot, to take a boat to *Palmetto State* in order to receive Ingraham's terms. Upon reaching the ironclad, Abbot was ushered into the presence of *Palmetto State*'s commander, Lt. John Rutledge, who immediately consulted Ingraham on the matter. The party from *Mercedita* must have made an amusing appearance; the *Mercury*

41. W. H. Parker, *Recollections,* p. 292.

42. Ibid., pp. 294-95; *O.R.N.,* Series I, Vol. XIII, 617; A. Roman, *The Military Operations of General Beauregard in the War Between the States, 1861 to 1865* (New York: Harper and Brothers, 1884), II, 56; *Daily Mercury,* 2 February 1863.

43. W. H. Parker, *Recollections,* p. 295.

44. *O.R.N.,* Series I, Vol. XIII, 579, 617-18; W. H. Parker, *Recollections,* pp. 295-96; *Daily Mercury,* 2 February 1863.

reported that 'the boat's crew, as well as the Yankee officer, had evidently made a hasty toilet, being without shoes or stockings, and otherwise dressed in scant fashion.' Abbot then informed Ingraham of the condition of *Mercedita* and of the number of her crew.[45]

The crew of the crippled blockader, having been surrendered by their commanding officer, was now solely Ingraham's responsibility, but there was little that he could do with his captives. *Palmetto State,* already cramped with a crew of 156 men and officers, could not possibly house *Mercedita*'s crew of 158. To further compound the problem, *Mercedita*'s boats, which had been lowered during the fray, were all swamped, as their plugs had all been mysteriously removed. It took some time for the flag officer to decide what to do with his prisoners; one of his impatient subordinates, seeing that haste would be necessary if the remainder of the blockading fleet were to be successfully attacked, was heard to exclaim, 'Commodore, you must think quick for we must get along!'[46] Eventually Ingraham rendered his decision to Abbot: the officers and men of *Mercedita* would be paroled, provided that Abbot would give his word that they would not take up arms against the Confederacy until regularly exchanged as prisoners of war. To this Abbot gladly consented, and he was allowed to row back to his ship.[47]

Meanwhile, *Chicora* was becoming actively involved in the engagement. Her commander, John R. Tucker, reported that, after crossing the bar, he first encountered a 'schooner-rigged propeller, which we set on fire and have every reason to believe sunk, as she was nowhere to be seen at daylight.' Although this could have been *Mercedita,* which was the only propeller-driven steamer in the vicinity at the time, it is very doubtful; *Mercedita* was neither attacked by more than one ironclad nor was she set afire. It is considerably more probable that the vessel that Tucker encountered was USS *Keystone State;* for although *Keystone State* was a side-wheel steamer, and not a 'schooner-rigged propeller,' it would have been nigh impossible for the pilot of *Chicora* to distinguish between the two in the dark. After hearing a shot fired in the direction of *Mercedita,* Commander William E. LeRoy, commanding *Keystone State,* noticed lights in the direction of the afflicted steamer, presumably the warning signals that Stellwagen had attempted to send to the other blockaders. After spotting two columns of black smoke, one of which came from a steamer bearing down on his vessel, the suspicious LeRoy ordered *Keystone State*'s cable slipped. When the approaching steamer failed to respond satisfactorily to his hail, LeRoy correctly guessed that the stranger's intentions were hostile, and ordered that *Keystone State*'s bow gun be fired on her. *Chicora* returned the blockader's fire immediately. LeRoy's suspicions confirmed, he brought *Keystone State* about hard aport, and unleashed the full power of her starboard broadside battery on *Chicora. Palmetto State,* now freed from her engagement with *Mercedita,* also headed for LeRoy's ship. In the meantime, a fire had broken out in the forward part of *Keystone State* as a result of *Chicora*'s shelling, and she stood to seaward so that the fire could be extinguished.[48]

By now it was quite obvious to the other blockading vessels that something was amiss near the entrance to the harbor. Commander J. M. Frailey, the commanding officer of USS *Quaker City,* having heard the sounds of cannon-fire in the direction of *Keystone State,* called his crew to quarters and headed his vessel toward the firing. Spotting a strange steamer headed towards *Quaker City,* Frailey brought the blockader about so that his guns could bear on the unfamiliar craft. When a mere 300 yards separated the vessels, the ironclad—presumably *Chicora*—opened fire on the oncoming Union warship, which quickly returned the fire. *Chicora* fired again; this time the shell hit the Federal ship amidships, exploding in her engine room and wreaking a considerable amount of damage. After a full broadside from *Quaker City*'s thirty-two pounder guns had no effect on *Chicora*'s armored sides, and *Palmetto State* was observed to be approaching *Quaker City* also, Frailey wisely decided to steam away out of danger.[49] Soon afterwards, the steamer USS *Memphis,* also alerted to the fighting, headed in towards the harbor to investigate. After *Chicora* had failed to respond to a signal from *Memphis, Memphis* fired on her and headed back to the remainder of the squadron, farther out at sea.[50]

While the Confederate ironclads had been diverted by the appearance of *Quaker City* and *Memphis,* the crew of *Keystone State* had been frantically extinguishing additional fires in the wooden steamer's forehold and shell-room. Once the fires were out, *Keystone State*

45. *O.R.N.,* Series I, Vol. XIII, 579-81; *Daily Mercury,* 2 February 1863.

46. W. N. Still, *Iron Afloat,* p. 120.

47. *O.R.N.,* Series I, Vol. XIII, 580-81, 618.

48. Ibid., pp. 581-84, 619-20; *Daily Mercury,* 2 February 1863.

49. *O.R.N.,* Series I, Vol. XIII, 593-94, 619.

50 Ibid., pp. 598, 619.

turned about and made straight for *Palmetto State* in an attempt to ram the gunboat. *Chicora*, which lay astern of the blockader, put a shell through both of her boilers, nearly stopping her dead in the water. *Chicora* continued to shell the helpless vessel, ten shells puncturing *Keystone State*'s hull near the waterline and two striking her quarter-deck. *Keystone State*, now rapidly flooding with water from shell-holes below her waterline, began to heel over on her starboard side. Casualties were mounting with every shell from *Chicora*, and LeRoy ordered the boats lowered, prepared to throw the steamer's signal books and small arms overboard, and struck his colors. Tucker recounted what followed:

> I at once gave the order to cease firing upon her, and directed Lieutenant Bier . . . to man a boat and take charge of the prize; if possible, to save her; if that was not possible, to rescue her crew. While the boat was in the act of being manned I discovered that she was endeavoring to make her escape by working her starboard wheel, the other being disabled, her colors being down. I at once started in pursuit and renewed the engagement.[51]

LeRoy had indeed surrendered his vessel; through no fault of his own, *Keystone State*'s engines, still 'having a good vacuum,' continued to function, and her starboard wheel continued to move her away from *Chicora*. Tucker, soundly deducing that the surrendered blockader was attempting to effect an escape, opened fire on *Keystone State;* and LeRoy raised his colors again, 'finding that the enemy was still firing upon us.' The Federal warship, 'owing to her superior steaming qualities,' swiftly moved out of the range of the ironclad's guns. The enraged Tucker later indignantly denounced LeRoy's actions: '. . . her commander, by this faithless act, placing himself beyond the pale of civilized and honorable warfare.'[52]

Chicora then headed southward for the harbor, and was fired on by USS *Augusta* and USS *Housatonic*, two more powerful blockaders which had come in to investigate the commotion. *Palmetto State* came along to support her sister ram, and the four vessels fired at each other at long range with little effect. The two ironclads soon broke off this futile firefight, headed directly for the bar, and anchored off Sullivan's Island at about eight o'clock that morning. There the vessels remained until four o'clock in the afternoon, for they were unable to cross the bar except at high tide. Steaming into the harbor, they were greeted at their wharves by a vast jubilant crowd.[53]

The Federal vessels, although sustaining a considerable amount of damage, had not been as severely crippled as the Confederates had hoped. After repairs were made to her punctured hull and engines, *Mercedita* was able to limp back to Port Royal. *Keystone State*, though far from being in a sinking condition, was much more seriously damaged. Twenty of her crew were killed and another twenty wounded, either by scalding or from shell-fire. One account relates that four marines on board *Keystone State* were all killed by a single shell from *Chicora;* this shell had penetrated the wooden blockader just below the spar deck and had swept through the hammocks of the four sleeping marines, decapitating three and removing the feet of the fourth. *Keystone State* was later taken to Port Royal in the tow of *Memphis*.[54] James H. Tomb, the second assistant engineer aboard *Chicora*, was rather skeptical of the damage done to the blockading warships, and placed most of the blame on the ironclads' commanding officers. He wrote of the attack on *Keystone State:*

> We . . . did not ram, but depended on our guns. Chief Engineer Clark afterwards informed me that [he] . . . did not think that the *Chicora* had power enough to back out in case we rammed the enemy's ship, and for that reason Captain Tucker decided not to make the attempt. There was no reason why we should not have rammed and every reason why we should have done so. The blow we should have struck [would have been] sufficient to sink the enemy . . . The upshot of the engagement was a good bit of glory, but not a prize or ship destroyed . . . They say we raised the blockade, but we all felt we would have rather raised hell and sunk the ships.[55]

Nevertheless, both Ingraham and Beauregard staunchly believed (or at least publicly claimed that they believed) that at least one Federal warship had been sunk and that the blockade had been legally raised. If this were true, then international law would compel the United States to go through the process of proclaiming their blockade all over again. If Beauregard could convince the European consuls—particularly those of England and France—that the blockade had indeed been broken,

51. Ibid., p. 619.
52. Ibid., pp. 584, 585, 619-20.
53. Ibid., pp. 582-88, 591-92; *Daily Mercury*, 2 February 1863.
54. X. Smith, 'Confederate Ram Raid off Charleston,' in G. M. Vickers, ed., *Under Both Flags: Tales of the Civil War as told by the Veterans* (Philadelphia: People's Publishing, 1896), p. 239; *O.R.N.*, Series I, Vol. XIII, 580-83.
55. Letter of J. H. Tomb, 31 January 1863, Confederate Subject File HA, National Archives Record Group 45.

Charleston would in effect become a free port until the new blockade was established. The ever-shrewd Beauregard seized at once upon Ingraham's conviction that at least one vessel had been sunk and another set afire, and immediately telegraphed Adj.-Gen. Samuel Cooper in Richmond about the incident: 'Enemy's whole fleet has dispersed north and south. I am going to proclaim blockade of Charleston raised.' Several hours later, Beauregard again anxiously wired Cooper:

> Some of the enemy's vessels have returned, but for several hours (three or four) none were insight. Was blockade raised or not? . . . Shall I publish my proclamation, written meanwhile?[56]

Beauregard must have received a favorable response from Richmond, for later that evening he and Ingraham issued their proclamation, which declared that the two Confederate ironclads had 'sunk, dispersed, or drove off or out of sight for the time the entire hostile fleet'; therefore, the Federal blockade of the port of Charleston had been 'raised by a superior force of the Confederate States.'[57] Beauregard's action was officially endorsed by the Confederate government at Richmond when the Confederate secretary of state, Judah P. Benjamin, distributed a circular concerning the matter among the various foreign consuls at Richmond. Stating that 'one or more of the blockading vessels were sunk or burned,' Benjamin reminded the consuls that 'by the law of nations a blockade when thus broken by superior force ceases to exist and cannot be subsequently enforced unless established *de novo* with adequate forces and after due notice to neutral powers.' Benjamin closed the circular by quite boldly referring to 'the now open port of Charleston.' Beauregard distributed a similar letter to Francisco Munez Moncada and the Baron de St. Andre, the Spanish and French consuls in Charleston, respectively, inviting them to take advantage of a steamer that he had placed at their disposal, so that they could be able to satisfy themselves that the blockade had indeed been broken.[58]

The two diplomats took advantage of Beauregard's offer later in the day on 31 January, steaming out into the harbor in the old *General Clinch*. Later that night they met with Robert Bunch, the British consul at Charleston, who had gone out into the harbor on board the British warship HBSM *Petrel* several hours earlier. Although Moncada related that he had seen 'three steamers and a pilot boat returning' during his excursion to the harbor entrance, Bunch insisted that he had not been able to see a single blockader, even with the aid of spyglasses, after sailing five miles out into the open sea.[59]

The Federal commanders in the area vehemently refuted the claims of the Confederate officers and the British consul. The six Union naval commanders who had been present during the affray drew up a lengthy denial of the seemingly preposterous idea that the blockade had been broken. After stating that none of the blockading vessels, with the exception of *Mercedita*, *Keystone State*, and *Memphis*, all of which had left for Port Royal, had departed their usual places of anchorage off Charleston, the Federal commanders concluded that 'the statement that any vessel came anywhere near the usual anchorage of any of the blockaders, or up to the bar, after the withdrawal of the rams, [was] deliberately and knowingly false.'[60] A similar statement was written by the colonel of the 176th Pennsylvania Regiment, which had been embarked aboard a troop transport off Charleston Harbor on the morning of the engagement. The colonel testified to the presence of the blockaders at their posts after the encounter, and remarked in disgust, 'The statement of the English consul . . . that the squadron could not be seen, even with the aid of powerful glasses, is one equally false, and one that impels us to conclude that it would require a powerful glass truly to be able to discover one particle of truth or honesty in the composition of these gentlemen.'[61]

Despite the favorable report from Bunch, the Confederate authorities were not able to secure foreign recognition of their claims. Immediately after the attack, a steamer was sent through the blockade to Nassau with messages to be delivered to diplomats Mason and Slidell, the Confederate ambassadors to Britain and France respectively, informing them of the attack on the Union warships and instructing them to attempt to secure official foreign recognition of Charleston's status as an open port. Mason, at least, was unsuccessful in obtaining this from British Minister of Foreign Affairs Lord Russell. After much pestering from Mason, Lord Russell quite flatly informed the Confederate diplomat that the British government did not consider the blockade to be

56. *O.R.N.*, Series I, Vol. XIII, 616.
57. Ibid., p. 617.
58. Ibid., pp. 620-21.
59. J. T. Scharf, *History*, II, 683; *O.R.N.*, Series I, Vol. XIII, 605, 621-22.
60. Ibid., pp. 605-07.
61. *O.R.*, Series I, Vol. XIV, 209-10.

raised, thus ending once and for all Beauregard's hopes for neutral recognition.[62]

In a much more local sense, however, the venture of Charleston's 'naval heroes' was valuable as a boost to morale, and the event was celebrated for a short time. Laurels were bequeathed upon the crews of the two ironclads by two anonymous 'daughters of South Carolina,' and a Te Deum was sung in celebration of the 'great victory' at Saint Philip's Church three days later. A Columbia newspaper claimed that a recent dramatic drop in the price of salt in South Carolina markets was due to the alleged raising of the blockade.[63]

The attack on the blockading squadron on 31 January 1863 was ultimately without any lasting effect. Even if the Federal blockaders had been driven off for several hours, it was certain that they would return to their posts once the rams were safely back in the harbor. The speed with which Beauregard and Ingraham issued their proclamation probably indicates that both of the Confederate commanders were well aware of this. Despite the claim of one historian that 'this intrepid exploit of the Confederate squadron fell like a thunder-clap on the North and woke the Federal government from its comfortable indifference as to the prowess of the Southern officers and the efficacy of their ships,'[64] the authorities at Washington and the Union commanders off Charleston were little troubled by the incident. Union Secretary of the Navy Gideon Welles, after hearing a report that the entire blockading fleet dispersed, told a nervous and excited Secretary of State William H. Seward that 'most of the stuff was unworthy of a moment's consideration.' Nine days after the attack, he remarked in his diary that 'all the noise about raising the blockade was mere trash of the Rebels South and their sympathizers North.'[65] The assistant secretary, Gustavus V. Fox, wrote to Samuel F. DuPont, the commander of the South Atlantic Blockading Squadron, 'The Charleston matter gave us very little concern, even with the flaming rebel headings, and I fancy the knowledge you have acquired of those craft is worth more to us, than our loss is gain to the enemy.'[66]

62. J. T. Scharf, *History*, II, 684-85.

63. *Daily Mercury*, 3-7 February 1863.

64. J. T. Scharf, *History*, II, 680.

65. *Diary of Gideon Welles* (New York: Houghton Mifflin Company, 1911), I, 232, 234.

66. R. M. Thompson and R. Wainwright, eds., *Confidential Correspondence of Gustavus Vasa Fox, Assistant Secretary of the Navy* (New York: DeVinne Press, 1920), I, 178.

Moreover, few southerners were subject for long to the spirit of optimism that pervaded immediately after the expedition. The *Mercury* lamented, ten days after the affair, that 'if the statements given by the officers of *Cadmus* [one of the two British warships in Charleston Harbor at the time] are true, the substantial fruits of our victory are far less important than previous accounts had led us to believe.'[67] In a sense, the incident was to result in unfortunate circumstances for the Confederates at Charleston; not only did confidence in the utility of the rams wane, but also Charleston faced the unpleasant prospects of an infinitely stronger blockade. Union naval secretary Welles, knowing full well that the wooden blockading vessels would not be able to deal effectively with the Confederate ironclads, sent a fairly large fleet of formidable Federal ironclads to DuPont. Within a month, DuPont had received the monstrous ironclad frigate *New Ironsides*, the bizarre *Keokuk*, and the superior *Passaic*-class monitor ironclads *Weehawken*, *Passaic*, *Montauk*, *Patapsco*, *Catskill*, *Nantucket*, and *Nahant*, thus dashing any hopes the Confederates may have had of repeating their performance of 31 January. In short, the attack of the two rams did not have the shattering effect that the Confederates had anticipated, either on the blockade or on Federal morale, and the Federals responded by calmly increasing the strength of their fleet off Charleston.[68]

The incident also made apparent, to Union as well as to Confederate naval officers, the woefully inadequate fighting capabilities of the two Confederate ironclads. Far from showing any 'efficacy' on the part of the rams, the attack on the blockade demonstrated that although the armored gunboats were quite successful in fighting wooden vessels at close range, their lack of satisfactory motive power prevented them from pursuing and fighting, on equal terms, any vessel whose speed exceeded five knots. Indeed, had the two rams not had the added advantage of surprise, the blockaders could easily have evaded them. As Parker painfully recognized: 'We did not capture her [*Princess Royal*, a captured blockade-runner] for the same reason we did not bring the *Housatonic* and other ships to close action—we could not catch her!'[69] The ironclads' lack of speed prevented them from forcing the blockaders to do battle at close quarters, where it is certain that the ironclads would have had the upper hand. It should be remembered that

67. *Daily Mercury*, 9 February 1863.

68. J. T. Scharf, *History*, II, 685.

69. W. H. Parker, *Recollections*, pp. 304-05.

Tucker's uncertainty of *Chicora*'s motive power kept him from ramming *Keystone State;* such an action might possibly have sunk the blockader. If the rams had been able to attain speeds nearly equal to those the blockaders were capable of achieving, the outcome of the encounter might well have been different.

Because of the rams' deficiencies, the Confederate ironclads could not possibly succeed in an attack on the blockade once the contingent of superior Union ironclads was added to the blockading squadron off Charleston. The *Passaic*-class monitors were particularly formidable opponents. They were not only much faster, more heavily armored, and more heavily armed than *Chicora* and *Palmetto State,* but they also had the added advantage of presenting only a limited target to enemy fire, for little more than their armored gun turrets were visible above the water. The monitors off Charleston outnumbered the Confederate rams by seven to two; and, with the addition of the huge *New Ironsides,* the Union ironclad fleet clearly had little to fear from the makeshift rams.

As Ingraham became convinced that *Chicora* and *Palmetto State* were inadequate for further offensive action, the two ironclads were relegated to less important roles, particularly as new weapons were being experimented with at Charleston. As early as October 1862, Beauregard and several more enterprising junior naval officers had become enamored of a 'torpedo boat' that had been designed by Beauregard's engineering genius, Capt. Francis D. Lee. Lee's plan for a trim, swift, armored steamer carrying a 'spar torpedo,' or cast-iron explosive projecting from the end of a long iron pole, and armed with a single pivot gun, received Beauregard's enthusiastic approval. With Beauregard's encouragement and influence, construction of the rather unusual craft commenced at Jones' shipyard in October 1862. Beauregard soon lost his enthusiasm for the conventional ironclads, and hoped that they could be replaced by several vessels of Lee's design. Although Beauregard had earlier regarded the ironclads as 'indispensible to the successful defense of the harbor,' he now considered one torpedo ram to be 'worth several gunboats.' 'I cannot doubt,' he wrote to Adj.-Gen. Samuel Cooper,

> that Rams properly built, according to the plan of Capt. Lee, would be far more effective than gunboats of the present construction, three times as large and costly, with the other important advantage of being built in one third of the time required for Rams of the present models.[70]

Progress on Lee's vessel, however, was extremely slow, partially due to Ingraham's reluctance to furnish supplies for a project that was ultimately supervised by the army. In the meantime, someone apparently arrived at the ludicrous conclusion that the two navy ironclads could be made more effective if they, too, were equipped with spar torpedoes. Parker notes that *Palmetto State* was armed with these torpedoes sometime in February or March 1863; a torpedo was mounted on the end of a twenty-foot iron boom that projected from the bow of the ironclad, and which could be raised or lowered by means of a windlass housed in the casemate. Parker recounted:

> We kept it in the water ready for use, and about every two weeks would bring it on board, take out the fuses and examine the powder to see that it was dry. As executive officer I always attended to this with the gunner, and it was no joke to do it . . . we had to go out in a boat and take the torpedo off the staff, and in rough weather it was hard to keep the boat from striking it. . . . a moderate blow was sufficient to break the glass phials inside the fuses and cause an explosion . . . I have passed many a *mauvais quart d'heure* while the gunner unscrewed with a wrench, and took out, all the fuses. I think it was about the most unpleasant duty I ever had to perform.[71]

Since it was doubtful that the sluggish ironclads, whose engines barely enabled them to stem the tide at times, would succeed in attacking the formidable Federal fleet off Charleston, even if armed with torpedoes, further plans for an offensive against the blockade were recommended by various officials. Secretary of the Navy Mallory himself, in February 1863, forwarded a plan for disabling the Federal monitors by attacking them with small boats and steamers, whose crews could board the monitors, jam their rotating gun turrets with wedges, and set them afire with incendiaries. Mallory then dispatched a navy lieutenant, William A. Webb, to Charleston to supervise and execute the project. Lee, always looking for opportunities to employ his spar torpedoes, suggested that an attack be made instead with small boats equipped with spar torpedoes. After Lee had made a rather spectacular demonstration of one of these torpedo-boats, which helped to secure official approval of the idea, a number of these vessels were procured and out-

70. P. G. T. Beauregard to S. Cooper, 13 October 1862, Department of South Carolina, Georgia, and Florida Letterbook #2, P. G. T. Beauregard Papers, Library of Congress, Washington, D.C.
71. W. H. Parker, *Recollections,* pp. 306-07.

fitted, and a large group of sailors from the squadron were detailed and trained for the torpedo service.[72]

The Charleston squadron also underwent a change of command during the spring of 1863. Ingraham was removed from command on 29 March, and was superseded by Tucker, although Ingraham retained command of the naval station ashore. The junior officers of the squadron, eager for action, had anxiously been awaiting a change of this sort, blaming Ingraham for the squadron's inactivity. Lieutenant Bier, who had referred to Ingraham in rather disparaging terms in his generally acerbic letters, was much more favorably disposed towards Tucker. Before the change of command, he wrote: 'Tucker, who is one of the most energetic and capable officers in the service, ought to command these two Rams. . . . In forty-eight hours after he has [been] given command of the vessels afloat, something creditable to the Navy would be done—until he does have command, nothing will be done.'[73]

Ironically, Tucker's policy was to be, of necessity, even less active than Ingraham's had been. When DuPont's ironclad fleet attacked the Charleston harbor fortifications *en masse* on the afternoon of 7 April 1863, *Chicora* and *Palmetto State* were stationed in previously arranged positions, in the 'middle ground' between Forts Sumter and Moultrie. Since the 'Confederate naval forces afloat at Charleston did not possess either the strength or swiftness for an attack,' the two rams circled slowly, and were only to launch a 'desperate and final assault' if the Federal ironclads succeeded in passing the formidable harbor forts. The Confederate batteries were successful in repulsing DuPont's fleet, and the services of the rams were ultimately not needed. It is difficult to conjecture what effect, if any, an attack by the Confederate ironclads would have had on the Federal fleet's progress into the harbor had DuPont's assault been a success.[74]

Despite a few fruitless efforts to involve *Chicora* and *Palmetto State* in some sort of meaningful activity, the two rams, bereft of any role which their limited capabilities would allow them to fulfill, remained inactive. The ironclads were to accompany the torpedo-boat expedition proposed by Mallory and Lee, which was set to take place at midnight on 12 April 1863. The ironclads were to follow the torpedo-boats over the bar; and, while the boats attacked the monitors, *Chicora* and *Palmetto State* were to close in and sink the redoubtable *New Ironsides*. The attack was postponed until the next day after it was discovered that the monitors had left the immediate vicinity of the harbor. The venture was called off permanently the next day, and the crews of the torpedo-boats were sent back to their respective ships by a navy department order.[75] The ironclads were once more readied for action in August 1863, during the struggle for Morris Island. Augustus T. Smythe, a sergeant of the Army Signal Corps stationed aboard *Palmetto State*, wrote:

> The men were getting ready to go off in the small boats, but were stopped & ordered to remain on board. This is to be ready in case of an advance of the [Federal] ironclads which is expected and looked for. Our hammocks have been taken down from the gun deck & we shall have to sleep where we best can.[76]

The expected attack did not come, and thus the ironclads were again denied the opportunity for combat.

Chicora, however, was soon to play an important role in an insignificant Union fiasco. At one o'clock on the morning of 9 September 1863, a number of launches filled with Federal sailors and marines from the blockading fleet headed for Fort Sumter. The Federals, armed with muskets, revolvers, and cutlasses, were to land on Sumter and take the fort by storm in a surprise attack. Unfortunately for the Federal assaulting party, the Confederates were expecting such an attack, and they waited on Sumter's parapet with muskets and hand grenades. 'The Yankees were allowed to mount on the berm of the fort, when our men from above and below opened on them with musketry and then with brickbats,' Smythe wrote.[77] *Chicora*, evidently prepared for such an incident, added her battery to the murderous barrage. 'The fire of the *Chicora* . . . encircled the work and effectfully assisted to prevent any reinforcements coming up,' reported the commander of the Sumter garrison.[78] 'The *Chicora* fired grape and canister with terrible

72. J. T. Scharf, *History*, II, 687-88; M. F. Perry, *Infernal Machines: The Story of Confederate Submarine and Mine Warfare* (Baton Rouge: Louisiana State University Press, 1965), pp. 71-72.

73. G. H. Bier to 'George,' 29 January 1863, Confederate Area 8 File, National Archives Record Group 45.

74. W. H. Parker, *Recollections*, pp. 309-10; J. H. Rochelle, *Life of Rear Admiral John Randolph Tucker* (Washington: The Neale Publishing Company, 1903), pp. 48-49.

75. M. F. Perry, *Infernal Machines*, p. 74; J. T. Scharf, *History*, II, 690-91; *O.R.N.*, Series I, Vol. XIV, 688.

76. A. T. Smythe to unknown, 30 August 1863, A. T. Smythe Letters, South Carolina Historical Society, Charleston, S.C.

77. A. T. Smythe to unknown, 9 September 1863, A. T. Smythe Letters.

78. J. Johnson, *The Defense of Charleston Harbor, Including Fort Sumter and the Adjacent Islands, 1863-1865* (Charleston: Walker, Evans and Cogswell, 1890), p. cxxxviii.

effect, fairly mowing them down . . . we captured 10 boats, the other were sunk by the *Chicora*.'[79] The attacking force was completely destroyed, most of the men having been killed or captured by the Confederates.

Beauregard, who had expected a great deal from these improvised warships, was far from impressed with the performance of the ironclads. Since Beauregard considered torpedoes and torpedo-boats to be of infinitely greater military value than the ironclads could ever be, he was irritated that naval construction at Charleston was going on at an ever-increasing pace, at the expense of his torpedo and mine program. When appealing to the authorities at Richmond for iron plating for Lee's torpedo-ram, he begged the War Department to consider 'the relative value, as war engines, of the Lee torpedo ram and of the ironclad rams *Chicora, Palmetto State,* and others of the same class now building in this harbor, to the absorption of all material and mechanical resources of this section of the country.' He also questioned the advisability of appropriating 'all the material and employ[ing] the mechanical labor of the country in the construction of vessels that are forced to play so unimportant and passive a part as that which Captain Tucker . . . officially declares to me must be theirs in the future as in the past.'[80]

Although dubious about what the squadron was actually capable of accomplishing, Beauregard never gave up hope that Tucker might attempt to put his squadron to use, and he accordingly prodded the naval commander more and more throughout the summer of 1863. He wrote to Tucker on 12 July about what he considered to be the pressing need for an attack on the enemy fleet before the Union forces could make an assault on Morris Island, on the southeastern edge of the harbor. He suggested that Lee's torpedo-ram (although still unarmored) and several small steamers, all equipped with spar torpedoes, be used for such an attack, but that the rams remain behind, so that they could continue to provide a final means of defense for the city of Charleston itself. Tucker did not reply to Beauregard's satisfaction, even after the fiery general had emphasized the urgency of the matter, and Beauregard went so far as to hold a conference with Ingraham and Tucker on the feasibility of attacking the Federal fleet with fire-ships. Although the naval commanders insisted that the chances for such a farfetched plan were slim, Beauregard nonetheless authorized the plan's execution.[81]

Relations between the two services continued to be strained. Brig.-Gen. Roswell S. Ripley, commanding Charleston's harbor defenses, attributed a 'disruption of communications' on Morris Island to 'the scarcity of our naval force and its inactivity,' after Tucker had ignored Beauregard's request to station both of the ironclads near Morris Island to aid in the shelling of enemy shore batteries. Beauregard agreed with Ripley, and again reminded Tucker that he considered it to be vitally important that at least one ironclad be stationed nightly in support of the Confederate positions on Morris Island. Tucker immediately replied that the naval station possessed a mere eighty tons of coal, and that Ingraham had 'admonished [him] of the necessity of economy in consumption.' Tucker also argued that the dense clouds of smoke that the rams emitted when under full steam would easily give their intentions away to the Federals. The rams once again remained inactive.[82]

Beauregard was quite clearly disgusted with the seemingly purposeless nature of the ironclads as a means of harbor defense. The fact remained, however, that the rams were inactive out of sheer necessity. They could not possibly have confronted the Federal ironclads, and both Beauregard and Tucker were painfully aware of their extreme physical limitations. Beauregard wrote to Confederate congressman William Porcher Miles late in 1863, listing what he believed to be the principal defects of the Charleston ironclads. Not only were the two rams lacking in speed, of excessive draft for inland waters, and unseaworthy ('even in the harbor they are at times considered unsafe in a storm'), but they were also 'incapable of resisting the enemy's XV inch shot at close quarters,'[83] and were unable to fight at long range, since the necessarily small size of the ironclads' gunports restricted the vertical elevation of the cannon. Beauregard also deemed the two rams 'very costly, warm, uncomfortable, and badly ventilated, consequently sickly.' In conclusion, he wrote:

> The best proof of the total failure of the . . . ironclad gunboats . . . constructed at such cost and labor, is that, although

79. A. T. Smythe to unknown, 9 September 1863, A. T. Smythe Letters.
80. *O.R.*, Series I, Vol. XIV, 906-07.
81. *O.R.N.*, Series I, Vol. XIV, 725, 728, 734.
82. Ibid., pp. 736, 738, 746.
83. Here Beauregard probably refers to the battle between the ram CSS *Atlanta* and the monitor USS *Weehawken*, which took place on 17 June 1863 near Savannah, Georgia. In this engagement, *Atlanta* proved herself to be quite vulnerable to the solid shot of *Weehawken*'s monstrous fifteen-inch guns. W. N. Still, *Iron Afloat*, pp. 136-37.

commanded by our most gallant officers, they did not fire one shot in defense of Fort Sumter during the naval attack of the 7th of April last, nor have they fired a shot in the defense of Morris Island and Sumter during the present siege . . . excepting on one occasion—the assault on Sumter during the night of September 8 last, when the *Chicora* fired a few shots on the enemy's boats and barges.[84]

The general then suggested to Miles the possibility of procuring seagoing armored torpedo steamers, similar in design to blockade-runners, in England.

Despite the growing realization that ironclad warships, unless comparable in quality to their Federal counterparts, would be able to accomplish little in Charleston harbor, rams were constantly being built, and ironclad construction went on at Charleston at a rate which few Confederate ports could match. A deserter from the squadron informed Union naval officers in January 1863 that at least two additional ironclads were being built at the time, but that no machinery was to be had for them, thus preventing their completion. Armor plate was also in short supply; the deserter claimed that the Confederates had 'used up all but three bells in the city' in their search for metal. One of these two partially constructed vessels was the ironclad ram CSS *Charleston*. The contract for the building of *Charleston* had been awarded to James M. Eason, the builder of *Chicora,* and her keel was laid down in December 1862, probably at either the Jones shipyard or the Kirkwood and Knox yard. Unfortunately, very little was recorded of her construction, but it is probable that much the same difficulties were encountered during her construction as had been during the building of her predecessors. After receiving her armor and machinery, she was launched late in the summer of 1863.[85]

Charleston was the finest of the three ironclads now afloat in the harbor. She was slightly larger than the other two ironclads, measuring 180 feet in length, 36 feet in beam, and drawing 12 feet of water. Her casemate was no larger than those on *Chicora* or *Palmetto State;* however, it was pierced for six cannon rather than for four. *Charleston*'s engines were similar in size to those on the other two rams—a cylinder thirty-six inches in diameter driving a single 8.5-foot propeller—but she was slightly faster than the others, one deserter estimating that she averaged six knots.[86]

84. *O.R.N.,* Series I, Vol. XV, 694.

85. Ibid., Vol. XIII, 532; J. T. Scharf, *History,* II, 671.

86. Statement of G. Dowell, n.d., Area 8 File, National Archives Record Group 45.

By the third week of August, *Charleston* was ready to receive her crew. An enthused Smythe noted on 25 August:

> The new boat 'Charleston' is ready for service. She has only two guns mounted as yet but they are both splendid rifled, double-banded Brooks [sic] guns and will be very effective. She's a splendid vessel & when she gets her full armament will be a great assistance.[87]

Charleston did not receive her entire powerful battery of two VIII- or IX-inch shellguns and four 6.4- or 7-inch Brooke rifled cannon until well into the spring of 1864. In January 1864, Tucker transferred his flag to *Charleston* from the decrepit *Chicora*.[88]

Another ironclad was under construction in Marsh's shipyard at the same time that *Charleston* was being built. This gunboat's unfinished hull, however, was turned over to Captain Lee in mid-1863, and was converted by him into the armored torpedo-ram *Torch*. This vessel was described by a deserter as similar in appearance to the two older ironclads, but considerably smaller and carrying no guns.[89]

The addition of *Charleston,* though, did little to change the lethargically routine nature of the squadron's activities. The three ironclads, all of which were now carrying spar torpedoes (*Charleston*'s torpedo was triple-headed), invariably spent their days moored in the Cooper River, each gunboat surrounded by a protective underwater netting suspended by a log boom outrigger. Each night, one of the rams, usually either *Charleston* or *Palmetto State,* would stand picket in the channel between Forts Sumter and Moultrie. The leaky *Chicora* spent much of the early part of 1864 at dock, and her battery was reduced to three guns. Since the ironclads' crews obviously had little to keep them busy, a detachment of sailors, dubbed the 'Charleston Naval Battalion,' was taken from the ironclads and formed under the command of Lt. William G. Dozier. This battalion served as infantry in the defenses on James Island throughout July 1864.[90]

87. A. T. Smythe to unknown, 25 August 1863, A. T. Smythe Letters.

88. J. T. Scharf, *History,* II, 671; *O.R.N.,* Series II, Vol. I, 250; J. Johnson, *Defense of Charleston Harbor,* p. 34.

89. Confederate Subject File AC, National Archives Record Group 45, *passim; O.R.N.,* Series I, Vol. XV, 229-31; P. G. T. Beauregard, 'Torpedo Service in the Harbor and Water Defenses of Charleston,' *Southern Historical Society Papers* V (1878), 150.

90. Statement of G. Dowell, Area 8 File, National Archives Record Group 45; *O.R.N.,* Series I, Vol. XV, 229-31, 744, 748-50, 766; Confederate Subject File EA, National Archives Record Group 45.

Ironclad construction continued throughout 1864 on a fairly extensive scale. Mallory, in his annual report for 1863, stated that three ironclads were under construction, 'one receiving her armor and machinery, the others advancing rapidly.' Only one of these three gunboats was to be later completed. This vessel, later commissioned as CSS *Columbia,* was probably one of the most powerful ironclads built for the Confederate navy. The contract for her construction was given to Eason and F. M. Jones, and her keel was laid during the latter part of 1863. Work on *Columbia* progressed rapidly, for a while; Mallory's report to the contrary, she probably did not receive her machinery until April 1864. By November 1864, *Columbia* had received all of her plating and armament, and was soon ready for active duty.[91]

Columbia, although possessing the same general characteristics as the other three ironclads, was considerably larger and more formidable. She was 216 feet in length, 51 feet in beam, and drew 13.5 feet of water when fully loaded. In order to conserve precious iron, her casemate was a mere 77 feet long, but she was armored with six inches of iron plate over the entire vessel. She was to carry a battery of six heavy guns, and all of them were in place by late 1864. Although no record of *Columbia*'s speed survives, her engines were of a quality rarely seen in Confederate warships, and even drew praise from Rear-Admiral John A. Dahlgren, DuPont's successor as commander of the South Atlantic Blockading Squadron. Her two noncondensing engines, each having a thirty-six-inch bore and a twenty-four-inch stroke, fired by five boilers and driving a single three-bladed propeller over 10 feet in diameter, were probably built by Eason, although Mallory reported that they had been supplied by the Confederate Naval Iron Works of Columbus, Georgia.[92]

Columbia was easily the most powerful and potentially effective warship in the Charleston squadron, and, along with the other vessels of her class (*Texas* and *Tennessee*), probably in the entire Confederacy. Upon examining her after the fall of Charleston, Dahlgren wrote, 'She is a remarkably fine, powerful vessel . . . a really formidable customer, and very strongly built, with great capacity as a ram. She would have stood a good fight with one of our ironclads.'[93] *Columbia,* however, was not given an opportunity to test her fighting potential against the Federal ironclads. The new ram, fully armed and armored, left her dock on 12 January 1865, and ran hard aground on either a sandbank or a sunken wreck. *Columbia,* being rather end-heavy (one deserter remarked that 'she is built so long that her bow and stern settle in the water and leave her middle high up'),[94] broke her back when the tide went out that day. The Confederates, in attempting to raise her, removed her entire battery and part of her plating, hoping that this would lighten her sufficiently. This was not successful, and the ram remained stranded until the Confederates evacuated Charleston the next month.[95]

Only three days after the grounding of *Columbia,* Tucker was again urged to attack the Federal blockade with his ironclads, but this time the request came from President Jefferson Davis himself. Davis asked Tucker to try to destroy the Federal fleet, and then go on to attack the Federal depot at Hilton Head, in order to hinder the Union general William T. Sherman, who was rapidly moving into the Carolinas with his army. Tucker, knowing full well that such an expedition would be doomed to failure now that *Columbia* was gone and *Chicora* all but useless, politely declined to make the attempt. He immediately wrote back to Davis:

> I have consulted with General Hardee and the commanding officers of the squadron and it is decided impracticable to make the attack as proposed by you. I have but two iron-clads and they are with defective steam power. . . . In my opinion the attack proposed would result in our capture or make it necessary to destroy the vessels, with all on board, in order to prevent their falling into the hands of the enemy. . . . This sacrifice I am ready to make if it will advance the public interests.[96]

The ever-increasing pressure on Charleston and its defenses by the besieging Federal army, combined with the threat that Sherman posed by capturing the state capital at Columbia, finally proved to be too much, and Charleston and its fortifications were evacuated during the early morning hours of 18 February 1865. All vessels in the harbor, with the exception of the grounded *Columbia,* three torpedo-boats, and several small

91. *O.R.N.*, Series II, Vol. II, 532, 638, 746, 752; voucher, C.S. Navy to J. M. Eason, 2 April 1864, Confederate Subject File AC, National Archives Record Group 45.

92. *O.R.N.*, Series I, Vol. XVI, 372; ibid., Series II, Vol. I, 251; W. N. Still, *Iron Afloat,* p. 96; *Civil War Naval Chronology,* VI, 214; voucher, C.S. Navy to J. M. Eason, 2 April 1864, Confederate Subject File AC, National Archives Record Group 45.

93. *O.R.N.*, Series I, Vol. XVI, 372.
94. Ibid., Vol. XV, 677-78.
95. Ibid., Vol. XVI, 387-88.
96. *O.R.*, Series I, Vol. XLVII, Pt. I, 1022.

steamers (including *Lady Davis*), were destroyed; *Charleston*, *Chicora*, and *Palmetto State* were fired and blown up at their moorings in the Cooper River. The crews of the ironclads and other naval personnel were sent elsewhere, many later serving in Virginia as infantry under Tucker's command. The destruction of the ironclads, which took place at four o'clock in the morning of the eighteenth, was described by observers as being a magnificent sight. The *Courier* reported that the event was 'terrific. . . . Pieces of the iron plate, red hot, fell on the wharves and set them on fire.'[97] The retreating Confederates also destroyed the two ironclads that were under construction at that time, one of which was in dry-dock ready to receive her plating, the other still on the ways in the navy yard. The arriving Federals could find only *Columbia*, which remained stranded, and *Chicora*, whose shattered casemate was visible above the surface of the river at low tide despite her destruction. *Columbia* was floated and repaired by the Union occupation force that April, and she was towed to Hampton Roads by USS *Vanderbilt* a month later.[98]

Such a dramatic finish was far from appropriate for such a seemingly useless naval force. The construction of at least seven ironclad gunboats, of which only four were completed, proved to be a tremendous drain on the Confederacy's already depleted resources. The Charleston ironclads certainly did not merit this waste. Indeed, it is hard to imagine why the ironclad program was escalated after the first two Charleston rams proved themselves to be barely capable of engaging converted wooden merchant steamers, even with all the advantages of surprise.

The reasons for the squadron's failure as an effective combat force were at least twofold. Part of the blame for naval inactivity in Charleston Harbor must be attributed to the command structure of the Charleston squadron. The two commanders of the squadron—Ingraham and Tucker—were experienced naval officers who had served at length in the 'Old Navy' previous to the war. Both had achieved fairly responsible positions when the navy was still predominately sail-powered. Being capable professionals, neither of these two men entertained any delusions concerning the relative capabilities of the Union and Confederate navies, as they were fully aware both of the industrial superiority of the Union and of the technological and numerical superiority of the Federal navy. Hence, neither commander had been willing to risk what they saw as certain defeat in a vain attack on the increasingly formidable blockading squadron. In light of this, it may well be conjectured that, if the Confederate high command had desired a more aggressive naval policy in Charleston Harbor, a younger, less experienced, and brasher officer might have been a better choice as squadron commander. Junior officers—such as Lt. William Glassell, who channeled his ambitious energies into pioneering the rather risky possibilities of torpedo warfare—could well have proved more aggressive, and certainly more responsive to Beauregard's and Davis's entreaties for offensive action, than Ingraham and Tucker had been. This is not to say, however, that the more restrained Ingraham and Tucker were unwise in pursuing the policy that they did; indeed, to have attacked the Union fleet after the arrival of the monitors would have been sheer folly. It is impossible to say what either of these two officers would have accomplished had they commanded a substantially stronger naval force, but it can be argued that the generally unaggressive nature of the Charleston squadron was due in part to the professional common sense and conservatism of its two commanding officers.

Despite whatever faults the commanders may or may not have had, the principal reason for the dismal performance of the Charleston squadron was, first and foremost, one of technology. Although the Charleston ironclads were constructed with a good deal of ingenuity and at great expense and sacrifice, they could not possibly compare with the Federal ironclads in terms of speed, maneuverability, firepower, and strength or practicality of construction. The hollow victory that the Confederate rams achieved over the wooden vessels of the Federal blockade only served to emphasize the inadequacies of the Confederate warships. The immeasurable technological and industrial advantages that the North possessed effectively negated any chance that the Charleston squadron might ever have had for success. The vast superiority of Union warships not only prevented the Confederates from launching another offensive, but also silently refuted the justification of the squadron's existence as an effective means of harbor defense.

97. *Daily Courier*, quoted in W. N. Still, *Iron Afloat*, pp. 220-21.

98. *O.R.N.*, Series I, Vol. XVI, 320, 322, 336, 338, 372, 387-89; Still, *Iron Afloat*, pp. 219-21.

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Book Reviews

MAX JUSTO GUEDES, Editor, *Historical Naval Brasileira*, Ministerio de Marinha, Servicio de Documentacao Geral da Marinha, vol. 1 and vol. 2, part I (1975); vol. 2, part 29 (Rio De Janeiro, 1979).

The separate chapters of this maritime history of Brazil are really specialist monographs which one reviewer would be hard put to criticize with equal fairness. The three volumes presented by the editor Max Justo Guedes, however, constitute a manageable whole. Guedes is also the author of several chapters in all three volumes. His use of modern charts, edited to bring out comparative data on historic ones, which are frequently printed side by side with them, is most persuasive, and commendably frequent. The result is a thematic unity of geographic reference throughout the work. The breakdown of chapters into well-defined topics in chronological sequence, which is followed by all authors, combines unity with diversity and makes these volumes remarkably easy to use.

There is of course a certain illusion in this easy flow of the history. Separate themes do address widely different subject matter in different ways. They are all, however, based on much fresh archival material. For this reviewer, notable examples are the chapters for the late Coronel Rolando La Guardia Trias of Uruguay, with extensive reference to Spanish archives, and by Max Guedes, with many corrections of detail, additional hydrographic data, and thorough bibliographies. Cumulatively, these will lead to adjustments of vision which any future history of Brazil will have to build upon.

Cooperative work like this can aim for an overarching conclusion only by having the editor make it a goal for his contributors, or by including a summary at the end. Neither of these approaches was chosen. Instead, the contribution of this work is of a different sort. It is like a hydrographic chart of a coast, partly known to many, of an edition currently in use, which contains the latest datum added 'by hand.' Revisionism is emphasized in the detail which is garnered from international archival research; the strength of the work lies in comprehensiveness of its coverage, and in the great variety of illustration, for a reconstruction of the history of the reconnaissance, settlement, and defense of the Brazilian coastline.

Beginning with the first chapters which use the most extensive definition of Brazil—including the grants of Ojeda on the north coast, and the voyage of Sebastian Cabot to the La Plata estuary—this history recalls the time when Brazil was all of South America that was not Peru (except for the Caribbean coast), and Peru, in turn, was all of the continent short of the most eastern tip of current Brazil. Next, the wider view of oceangoing traffic between Portugal and her American colony, connecting Brazil with the African shores and beyond, places this traffic in the imperial frame of maritime history. Then one realizes that the history of the coast, though it continues to play a dominant role from imperial perspective, is no longer the major theme of Brazilian history, as the interior presents consistent themes in shaping its distinct character.

On the other hand, this is not a work of Braudelian vision. Rather it is a narrative account centered on captains, officers, and crews, of passengers both free and involuntary. Administrative and military personnel cope with the ebb and flow of events, sometimes in charge, at other times reacting against odds. Social, economic, and diplomatic concerns are sketched in where pertinent. They are soundly based on reference to authors like Virginia Rau, Charles Boxer, and Frederic Mauro, but they are not the subject of these volumes.

The sections which indicate new directions in maritime history in recent years are the chapters and paragraphs found throughout the volumes which refer to nautical science. These are here integrated into the general sweep of evolution of that discipline as they rightly should be, but seldom are. Luis Mendonca de Albuquerque sets the pace with an opening chapter on the art of navigation, and illustrations of technical aspects of hydrographic interest make this material accessible to the layman. Ship construction, the history of which has its own clientele, is also brought into the story which goes well beyond the customary summary. Joao Pimentel Barata is an exemplary guide for that topic. Omitted is as yet the development of river traffic—craft built and used on the La Plata (Asuncion) and the Amazon come to mind—but some of that work is indeed even more recent than the book under review.

The French role as challenger to Portugal on the coasts of Brazil is in the competent hands of Philippe Bonnichon who tells his story in two chapters. Abeillard Barreto is also the author of two consecutive chapters. He covers the conflict with Spain over the southern region until 1777. His reference to Spanish and other archives is not only extensive but exclusive, thus avoiding the old controversies which are in the secondary literature. The chapter on the north coast, on Belem and Cayenne, by Luis Claudio Perreira Leivas and Castilhos Goycochea copies articles published in 1949 (here printed posthumously) because, according to the editor, no one has since done any better work on this subject.

Several chapters are of joint authorship, and collaboration is everywhere evident. The names of the authors, for instance, do not appear in the table of contents but only on the cover pages to the sections in the books. These, however, are printed on blue-colored paper offset against the white of the text, so that one can quickly find the chapter pages. Visually, this work is a delight to see and to use. Part two of volume two is the longest with 491 pages, but it can be handled easily in the soft cover. The bibliographies appear at the end of each chapter, and credit goes to a varied group of Brazilian archival experts. There is no summary bibliography, nor is there an index. The print is laudably clear and remarkably free of misprints.

This work will remain the necessary reference tool for scholars of Brazilian colonial history who have not had such a detailed account of their maritime record. For comparative naval history the development and course of the Portuguese convoy system is here documented in detail. For other scholars there is the lesson of cooperative history, the pooling of information, and guidance of the nonspecialist to issues and sources. A final word is reserved for an exemplary use of illustrative material, its imaginative selection, its great variety, including color reproductions, title pages, facsimiles of old material and recent photos. The books are a treat for mind and eye.

The tables of contents of the volumes are as follows:

Vol. I: 'A Arte de Navegar Na Epoca dos Grandes Descobrimentos,' Luis Mendonca de Albuquerque. 'A Navegacao a Vela no Litoral Brasileiro,' Joao Pimentel Barata, Carlos Francisco Moura, Max Justo Guedes. 'Descobrimento do Brasil,' Max Justo Guedes. 'Cristovao Jaques e As Armadas Guarda Costa,' Rolando A. La Guardia Trias. 'A Expedicao de Sabastao Caboto,' Rolando A. La Guardia Trias.

Vol. II, part 1: 'A Viagem de Martim Afonso de Sousa,' Rolando A. La Guardia Trias. 'A Franca Antartica,' Philippe Bonnichon, Gilberto Ferrez. 'A France Equinoxial,' Philippe Bonnichon, Max Justo Guedes.

Vol. II, part 2: 'Acoes Navais Contra os Estrangeiros Na Amazonia, 1633,' Max Justo Guedes. 'A Expedicao de Silva Pais e o Rio Grande de Sao Pedro,' Abeillard Barreto. 'Tentativas Espanholas de Dominio do Sul do Brasil, 1741-1774,' Abeillard Barreto. 'Ocupacao Portuguesa: Restaracao do Rio Grande e Entrega da Colonia do Sacramento (1774-1777),' Abeillard Barreto. 'Transmigracao da Familia Real Para o Brasil,' Antonio Marques Esparteiro, Pedro Calmon, Antonio Ruiz Porto e Albuquerque. 'A Conquista de Caiena,' Luis Claudio Perreira Leivas, Luis Felipe de Castilhos Goycochea. 'A Marinha e a Revolucao Pernmabucana de 1817,' Antonio Pimentel Winz, Max Justo Guedes. 'Ocupacao da Banda Oriental,' Jose Antonio Soares de Souza.

From the same editor in Brazil have come two additional publications which it might be profitable to recall in conjunction with the work reviewed:

Brasil - Costa Norte, Cartografia Portuguesa Vetustisma, Edicao Comemorativa do Centenario da Flotilha do Amazonas 1868-1968 (Rio de Janeiro: Ministerio da Marinha-Service de Documentacao Geral da Marinha, 1968). 72 pages, maps, illustrations.

Roteiro de Todos Os Sinais na Costa do Brasil, Edicao Comemorativa do v Centenario de Nascimento de Pedro Alvares Cabral. Reproducao facsimilar do MS 51-4-38 da Biblioteca da Ajuda; Leitura diplomatica: comentarios e indice de vocablos, by Luis Teixeira (Rio de Janeiro: Instituto Nacional Do Livro, 1968). 186 pages, facsimile of maps, ms, and illustrations.

The first collection concerns the north coasts of Brazil, the states of Pará, Maranaho, and Ceará. The documents and maps used for comparison come from various collections, modern and contemporary, and the color reproduction of the original is outstanding.

The second book is part of a linguistic series which is of great interest for identification of information on maps and nautical vocabularies. The work

on these subjects has been meticulous, and Captain Guedes is to be congratulated on his achievement.

Brazilian maritime history is now a very active field. The resources of archives and museums are now being made increasingly accessible. International pooling of expertise with Portuguese and other foreign scholars has resulted in specialized contributions to international symposia which promise to help confirm the meaning of 'All the oceans are one,' a vision still challenged to our peril.

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IRIS H. W. ENGSTRAND, *Spanish Scientists in the New World. The Eighteenth-Century Expeditions* (Seattle and London: University of Washington Press, 1981). Cloth, 234 pages, illustrated, appendices, bibliography, index. $25.00.

The eighteenth century in Europe became known as the great Age of Enlightenment. It was a time in history when scientists turned to the study of nature in their pursuit of truth and their desire to improve human existence. The great Swedish scientist, Linnaeus, had developed a system to classify all living matter, and naturalists in Europe and America traveled throughout the world to discover new species of plants and animals. There was a general sharing of knowledge as well as an interchange of plants and seeds.

However, in the 1700's little was known about Spain's scientific endeavors in the field of natural history. That country preferred to keep its activities secret and did not want to divulge any geographical information concerning its expansion in the New World. By the late eighteenth century political crises overtook the country, and many of the records of their scientists did not get published but were consigned to archival storage.

The author, Iris Engstrand, has uncovered much of this previously unpublished material and written an extremely interesting book about two major natural history expeditions of the Spaniards in the late 1700's. One is the Royal Scientific Expedition to Mexico, California, the Pacific Northwest, Guatemala and Cuba; the other is the around-the-world expedition of Alejandro Malaspina to Mexico, Alaska, the Northwest Coast and California.

Financed through the Crown, these were strictly expeditions for the purpose of collecting, cataloging and illustrating natural history specimens in the New World. They carried out experiments and identified innumerable plants, animals and minerals, most of which were preserved and sent to Madrid.

They also recorded significant information about Indian customs and gathered many artifacts. Particular emphasis was on botanical discoveries to aid the medical profession in its search for new remedies. These naturalists established a botanical garden in Mexico City and provided for the teaching of botany.

The author is to be commended for her thorough research for the book; this is attested to by nine pages of bibliography at the end, much of it being manuscript documents in Spanish.

There are five appendices. Two of these list some of the plants discovered and their uses. One appendix consists of a list of plants sent to England. The other two appendices consist of lists of books and instruments used to carry out the naturalists' work.

The book contains illustrations depicting some of the specimens drawn by members of the expeditions, as well as scenes and people encountered in their travels. The careful reader will find here a fascinating and enlightening story about two very different kinds of Spanish exploration in the New World.

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S. W. JACKMAN, Editor, *At Sea and By Land: The Reminiscences of William Balfour Macdonald R.N.* (Victoria, British Columbia: Sono Nis Press, 1983). ISBN 0-91923-05-1. 136 pages. $8.95 Cdn.

Good memoirs of officers of the Royal Navy are rare; those of Canadians serving in the Royal Navy are rarer still. This handsome volume brings into print the autobiographical vignette of a Victoria-born Canadian of a prominent family. 'I know that autobiographies are usually written by those who have gained distinction in life,' confesses Macdonald in tones of Scottish mirthfulness, 'in other words, those people of sufficient importance to have their obituary notice carefully prepared and all ready to pop into the daily papers when the distinguished life has ended. I am afraid I am not in that category, but I am tempted to write down adventures and

happenings that can never occur again to anyone, for in this modern world sailing ships and cannibals are out of date' (p. 19).

Macdonald, age twelve and well connected, passed the necessary examination for entry into the navy on board HMS *Swiftshure*, Admiral Stirling's flagship at Esquimalt. Then followed the rigorous training on board *Britannia*, the searing jibes as a 'scabby colonial,' and the violent passage to manhood. But the smallest 'snotty' (or midshipman) survived all this and more, and found himself sent to the Pacific and then to the Australian station and, as lieutenant, to undertake cruiser and gunboat actions in the islands of the headhunters. 'During our many months of patrolling [in the New Hebrides and other island-clusters], we had to punish many cases of cannibalism; the natives could never understand where their offence lay' (p. 54). The gunboat actions provided the one relief from the monotony of the Oceania, and Macdonald was relieved to have a change of command—back to Esquimalt and the chance to undertake a treasure-hunting expedition with Admiral Palliser to Cocos Island, a hushed-up affair of uncertain value to the Crown and the navy. The China station was his next posting, and with China in disarray Macdonald did not want for excitement.

In 1910 the Royal Canadian Navy was established and Macdonald (wary of 'side-shows') reluctantly assumed command of the cruiser HMCS *Niobe*, destined for training duties at Halifax. Macdonald's Canadian career suffered a singular misfortune: *Niobe* went aground off Sable Island. Raised from this ignominy by the forcing flame of war, Macdonald served in a number of capacities in the Great War and in 1920, 'exchanging the sword for the ploughshare, I became a market gardener in a still-suspicious and troubled world' (p. 130). His last years in Hampshire until his death in 1937 were a quiet conclusion to this imperial odyssey.

Professor Jackman is to be complimented on bringing this work into the status of an interesting, available naval memoir. It is a valued source for the student of the gunboat navy, and is no less important for its explanation of the navy's transition from sail to steam.

BARRY GOUGH

Wilfrid Laurier University
Waterloo, Ontario

★ ★ ★ ★ ★

PETER PADFIELD, *Tides of Empires, Vol. II, Decisive Naval Campaigns in the Rise of the West, 1654-1763* (Boston: Routledge & Kegan Paul, 1982). Cloth, 270 pages, illustrated, index and bibliography. $27.50.

This interestingly conceived and written book deals with one of the fundamentals of history, namely, that the nation controlling the sea shapes the course of civilization. Its genius, its ideals, its culture, and its philosophy make an imprint that never dies.

This second volume in a planned set of four, like its predecessor, has a broader point of view than the average study of naval campaigns and their enormous influence upon destiny—except perhaps Mahan's perceptive works. As deep-sea navigator on liners trading beyond far horizons, Peter Padfield may have found the germ of the idea for this series on these voyages. His basic concept, 'Model' as he terms it, is that 'the trading wealth and market control' gained through strength at sea were decisive in the rise of western civilization through the past four centuries. A noble derivative, which seems inherent in the sea, has been the growth of freedom.

The city states of Italy, especially Genoa and Venice, long dominated commerce between East and West. The extension of man's sea horizons around much of the globe in the Spanish and Portuguese explorations, with Genoa heavily involved, led to the decline of the city states as the chief traders. In their stead rose larger, more populous, and more powerful contestants washed by the Atlantic Ocean. The struggles between them would last through the Napoleonic Wars.

Peter Padfield's initial volume treated with the Mediterranean and then the first Anglo-Dutch war. It ended with Britain's victory in this beginning of their knockdown, drag-out sea wars. Volume II continues with the stubborn naval battles between these two struggling for the 'Empire of the Sea' and its trading riches.

In the third and last war between the two formidable sea powers, Louis XIV entered with dreams of vast dominion. Through the ensuing decades all the western European nations joined in from time to time. In the early 1700's Russia under Peter the Great began to loom as a growing power ashore with the start of a seagoing fleet. England emerged as the controlling sea power. Thereby she fastened her hold on colonies in the West Indies and on the rapidly growing ones in North America. These colonies in turn began to show the genius in sea commerce that in time challenged the mother country.

Intrigue, shifting of sides, and double-dealing by heads of state and their courtiers weave dark threads through the record. Valor unto death in sea battles weave golden ones.

Tides of Empires is more than an account of the many furious bulwark-to-bulwark naval battles, though these are well told. It emphasizes that the purpose of the struggles to win the sea was more than to insure security. It was to win the trade and the raw materials overseas. The nation that gained predominance in commerce and manufacturing—in importing, processing, and selling to the world—that nation gained wealth and power.

Another true theme is that the trade by sea and processing stimulated free enterprise—a fundamental urge of man. And free enterprise nourishes the other freedoms God means man to have. 'The flame of "true liberty" passed from Holland to England at the same time as the dominion of the seas.'

Thus the sea and freedom are synonymous. Padfield ends this thought-provoking book with a verse the last line of which sings, 'For who is so free as we sons of the waves.' This truth was perhaps first said long before in the Twenty-Fourth Psalm:

The world is the Lords and the fullness thereof
...
For He hath founded it on the seas.

ERNEST M. ELLER

Annapolis, Maryland

★ ★ ★ ★ ★

C. NEPEAN LONGRIDGE, *The 'Cutty Sark'; The Ship and the Model* (Watford, Herts, England: Argus Books Limited, 1975). 5½" x 8¾", paper, xxix + 208 pages (first part), xi + 232 pages (second part), illustrations, plans, indices. Distributed in the United States by the U.S. Naval Institute Press. $12.95.

This latest edition of Longridge's classic account of his building a model of the English clipper *Cutty Sark* is again a combination of the two volumes first published by Percival Marshall Ltd. in 1933. Contrary to the present publisher's blurb, this book has not been long out of print, as a very serviceable combined volume has been readily available from Edward W. Sweetman Company of New York for the last twenty-five years. For two dollars more, the Sweetman edition may be preferable to this one, the former being bound in buckram and printed on sturdier paper, but also including Underhill's plans as large folded sheets in an end pocket instead of cramming them onto the pages. In other respects, both are photo-offset copies of the original with the usual loss of clarity in the half-tones.

Longridge, together with Harold A. Underhill, J. H. Craine, Norman Ough, and a few others were the pioneers of twentieth-century ship-model building in England, wherein the conventions of making models as toys gave way to the intricacies of replication of ships in miniature and the serious pursuit of nautical research as the key to accurate reconstruction of fine detail. Longridge was probably the least prolific among his contemporaries (in terms of numbers of models built), but his models of *Victory* and *Cutty Sark* are milestones in the progress of ship modeling and well worth detailed examination. It is in this respect that the reprints are disappointing.

While Percival Marshall took great care to see that Longridge's drawings of construction methods and details were well arranged and reproduced, very few photos of the model itself were printed, and none of the work in its finished state. With the model so near at hand (in the Science Museum at Kensington), the present printer had a marvelous opportunity to secure detailed photographs of the model for publication with the original text, thus offering the benefits of Longridge's fine workmanship as well as his excellent drawings and writing.

While Underhill's plans of *Cutty Sark* are not as well reproduced as in the Sweetman edition, their current mode of inclusion is probably quite sufficient. Underhill's work has been largely superseded, in accuracy and detail, by the very fine plans drawn by George F. Campbell to $^{3}/_{32}$" scale and available in this country from Model Shipways Company, Bogota, New Jersey. Comparison of these plans will reveal the strength of recent popular demand for improved plans for model-making.

Keeping Longridge's writings in circulation is certainly commendable of the publisher and this reviewer does not scorn these high intentions. It is only when possibilities beyond the original publisher's intentions are considered that one realizes what splendid opportunities have been missed.

ERIK A. R. RONNBERG, JR.

Rockport, Massachusetts

★ ★ ★ ★ ★

MICHEL MOLLAT DU JOURDIN and JACQUES HABERT, *Giovanni et Girolamo Verrazano, navigateurs de François Ier* (Dossiers de voyages établis et commentés par M. Mollat et J. Habert: Voyages et découvertes, 2) (Paris: Imprimerie nationale, 1982). 248 pages, 90 illustrations (29 in color). 530 fr.

The great eleventh edition of the *Encyclopaedia Britannica* has no entry for Verrazano; his name receives only by-the-way mention (under the headings 'America,' 'New England,' 'New York City'), in one case with a reference to his 'disputed voyages.' In the new (fifteenth) edition (1980) he has an entry, and in the latest *Encyclopedia Americana* (1978) not only an entry but his first voyage, the most significant, is included in a map illustrating major voyages of discovery; moreover, there is no longer any talk of 'disputed voyages.'

What caused the change in attitude is made patently clear by this book, a presentation of all the original sources that concern the activities of the two brothers. Most of these have come to light in this century, some only within the last thirty years. Mollat is one of the foremost experts on the history of maritime commerce during the Middle Ages and Renaissance, and Habert is the author of the studies that began the reevaluation of the accomplishments of the Verrazanos. They provide the complete texts accompanied by a comprehensive commentary and, for those in Italian, by a translation; and from this body of material they have constructed an authoritative account of all the voyages, with emphasis on the nature of the political backing and the sources of financial support. A final section appraises the Verrazanos' contribution to geographical knowledge and to the development of western Europe's seaborne trade.

Giovanni Verrazano, probably born at Lyon of Florentine parentage, convinced Francis I to lend him ships, and a group of merchants and bankers, mostly of Italian origin, to provide the backing, for a voyage to 'the Indies in Cathay.' As things turned out, he left in only one vessel, *Dauphine;* it was probably about one hundred tons, and its crew, men of Normandy, numbered fifty. He shoved off from Dieppe late in 1523, sailed to Madeira, and on 17 January 1524 set off for the ocean crossing. Sometime in early March he made a landfall near the border between North and South Carolina, went south but only for a short distance to avoid conflict with the Spanish, turned about, and followed the coast north. He surely entered New York Harbor and also Narragansett Bay, in which vicinity he saw an island 'di grandeza simile a la insula di Rhodo'—Block Island according to some authorities, Martha's Vineyard according to others. He continued along the coast as far as Newfoundland, then headed for home. By 8 July he was back in Dieppe.

Verrazano wrote up a model report which he handed over to the king. It was buried in the archives and eventually lost, although its contents in various ways came to be known to many of his contemporaries. In 1556 Giovanni Battista Ramusio, in his *Navigazioni e Viaggi,* published an Italian version made from what was obviously an inferior copy of the report. This was reproduced in English translation by Hakluyt in 1582, a translation that was widely read; Roger Williams, for example, knew it, since its reference to an island near Narragansett Bay 'of a size similar to the island of Rhodes' led him to call the site of his colony 'Rhode Island.' However, with documentation no more solid than this, Verrazano's star steadily faded until, in the late nineteenth century, historians even doubted the historicity of his achievements. The tide began to run the other way when, in 1909, there was published a new copy of the report discovered in a Florentine archive—the fine copy that is presented in this book. Yet it was not until after World War II that researchers, digging into the files of France and Italy, found the papers that not only totally authenticated the three voyages that were known but added a fourth, as well as gratifying detail concerning the source of the Verrazanos' backing.

Giovanni's second voyage, 'to unknown isles and ports of the Indies,' involved three ships, two of them supplied by the king and one by a rich merchant; the financial support came from merchants, mostly of Normandy. The fleet sailed from Honfleur on 15 June 1526, made a landfall on the coast of Florida, followed the coast of South America quite far down though not as far as the Straits of Magellan, then turned east to head for Cathay by way of the Cape of Good Hope. At some point near the cape, the brothers in two ships turned to go home (the crews were restive, if not mutinous). The third sailed on into the Indian Ocean and reached Sumatra, where natives killed captain, pilot, and some of the crew; the rest sailed back as far as Madagascar, were wrecked there, and the survivors, now a mere dozen, built themselves some sort of vessel, made it to Mozambique—and were promptly clapped into jail by the Portuguese. They were the first French to enter the Indian Ocean.

We know much about the financial backers involved in the third voyage, thanks to the survival of papers from

the law cases that dragged on for seven years after the return. The voyage was made in a single vessel, a *nef* named *Flamenque*, and it came back with a cargo of 'red wood,' i.e., brazilwood, immensely valuable for its use as a dyeing agent. But it came back without Giovanni Verrazano. The brothers seem to have headed for the Bahamas and then shaped a course for Panama. At an island identified by some as Jamaica, by others as Guadaloupe, Giovanni went ashore with six of the crew; they were seized by natives and eaten. Girolamo immediately sailed for home.

The fourth voyage, under Girolamo, was unknown until 1949 when Mollat published a newly found document concerning it. Girolamo's ship, *Bonne Aventure*, a *nef* of 120 tons, made a great loop, going first to Brazil and from there to the Mediterranean. Girolamo then gave up the sea, settled down in Italy, at this point slips out of the historical record; the date of his death is unknown. He had always been recognized as a skilled cartographer (the world map that he drew in 1529, now in the Vatican, is famous); he may now claim due recognition as a sailor.

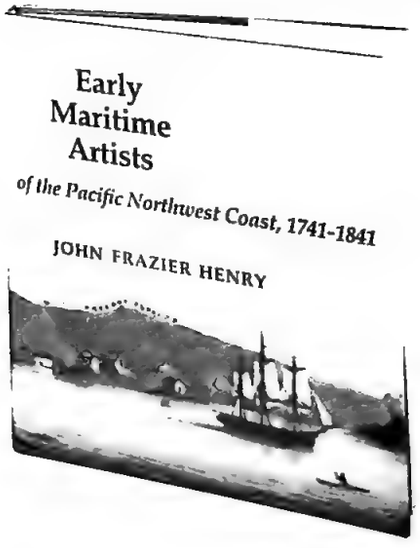
The book carries the brothers' story right up to the present. Their triumphant vindication came, first, when a statue of Giovanni, donated to New York City by Italy in 1909 and erected in Battery Park but then removed, was reerected with much fanfare in 1952, and above all when the mighty bridge that now spans the Narrows was given his name.

The text is richly illustrated with fine reproductions of the key documents and maps discussed.

LIONEL CASSON

New York University

Sail into history



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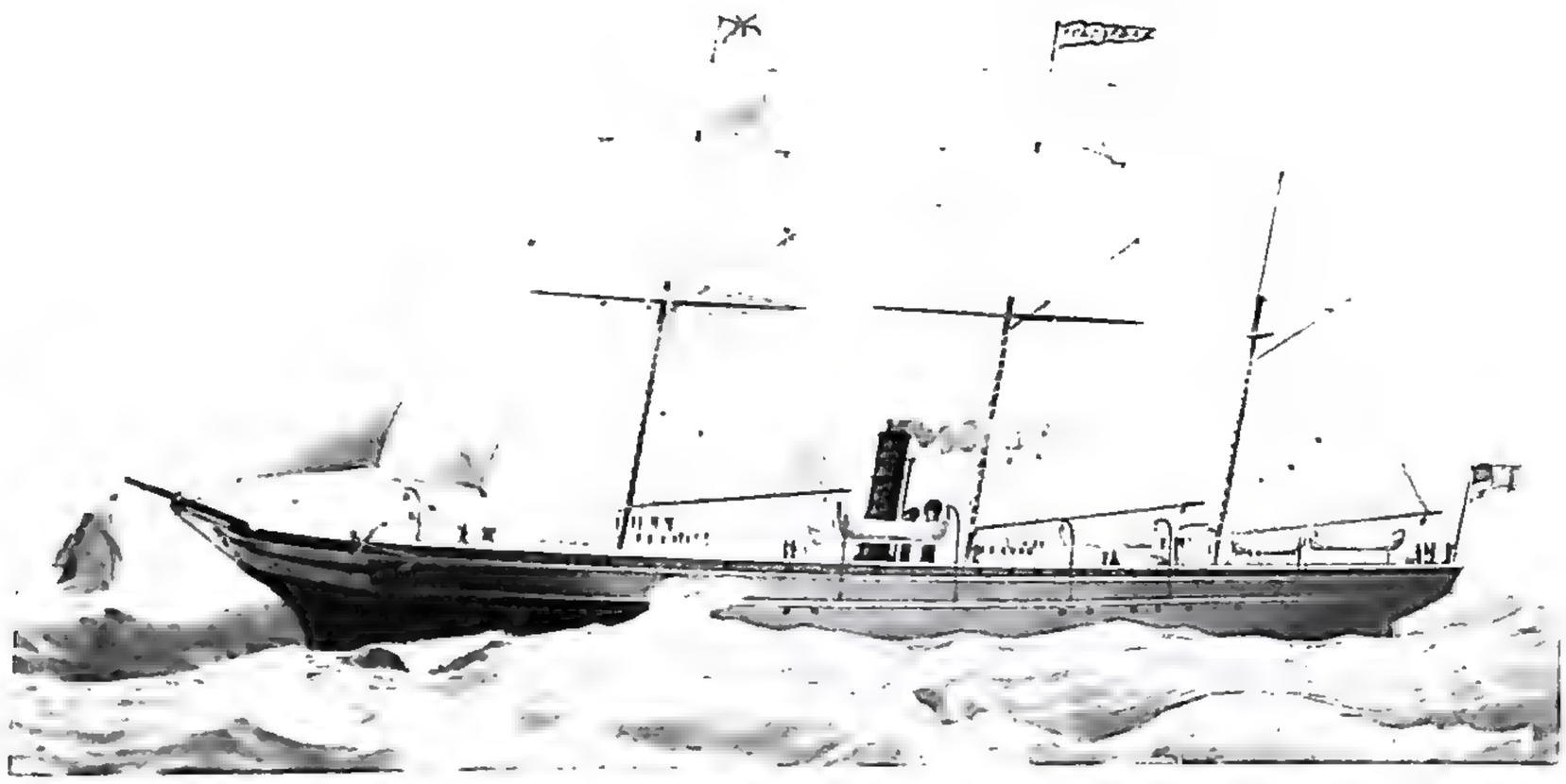

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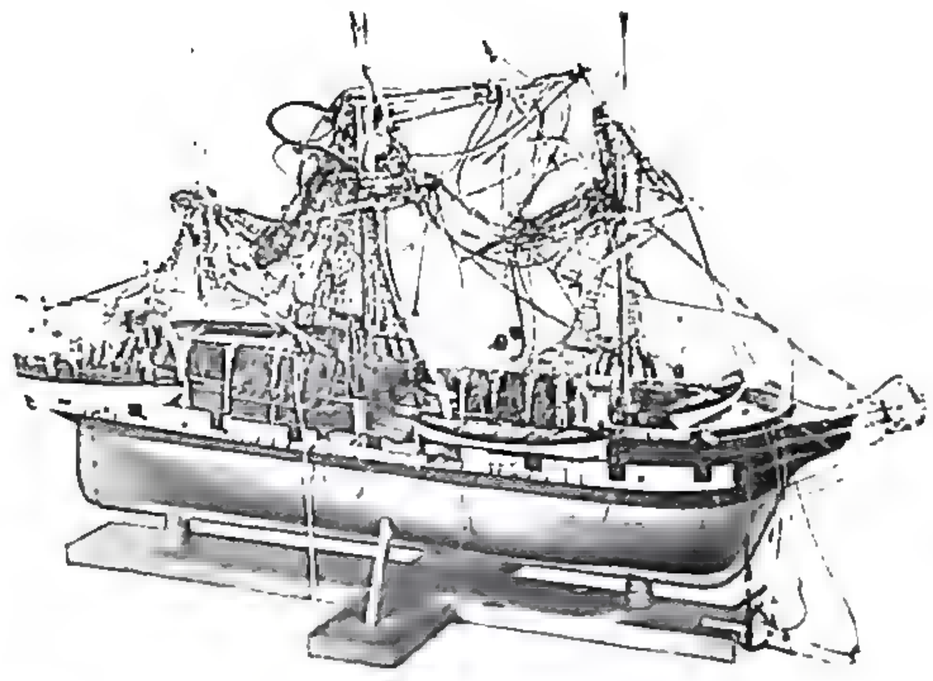

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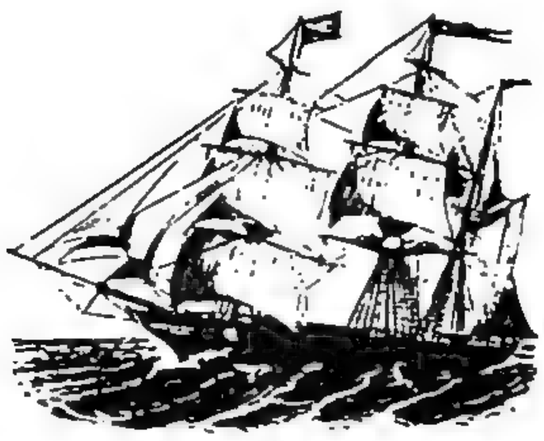

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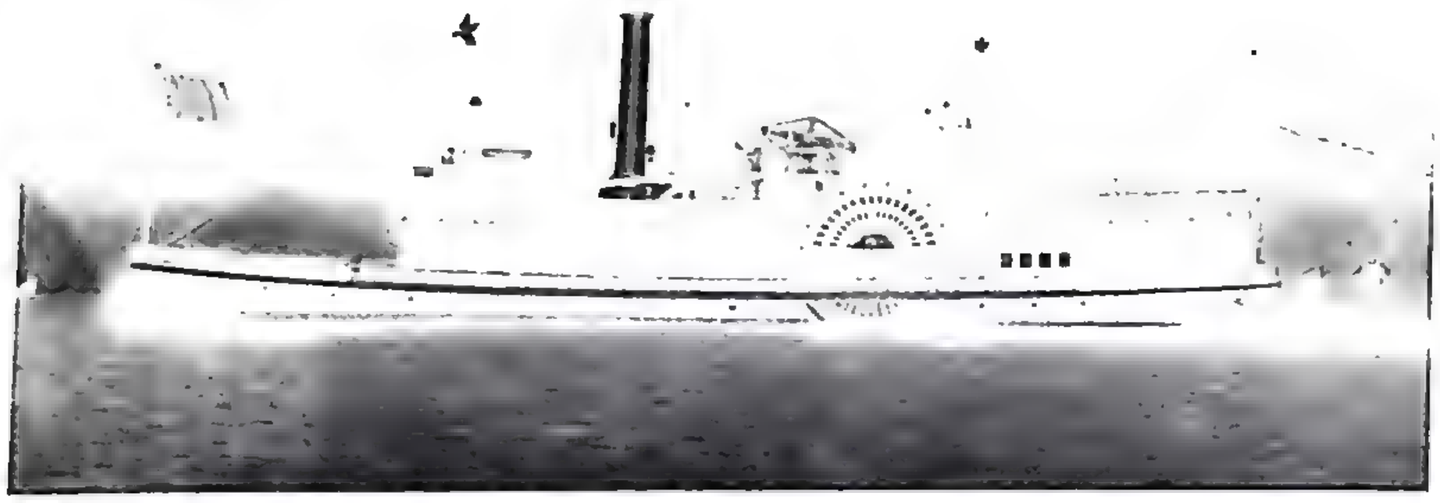

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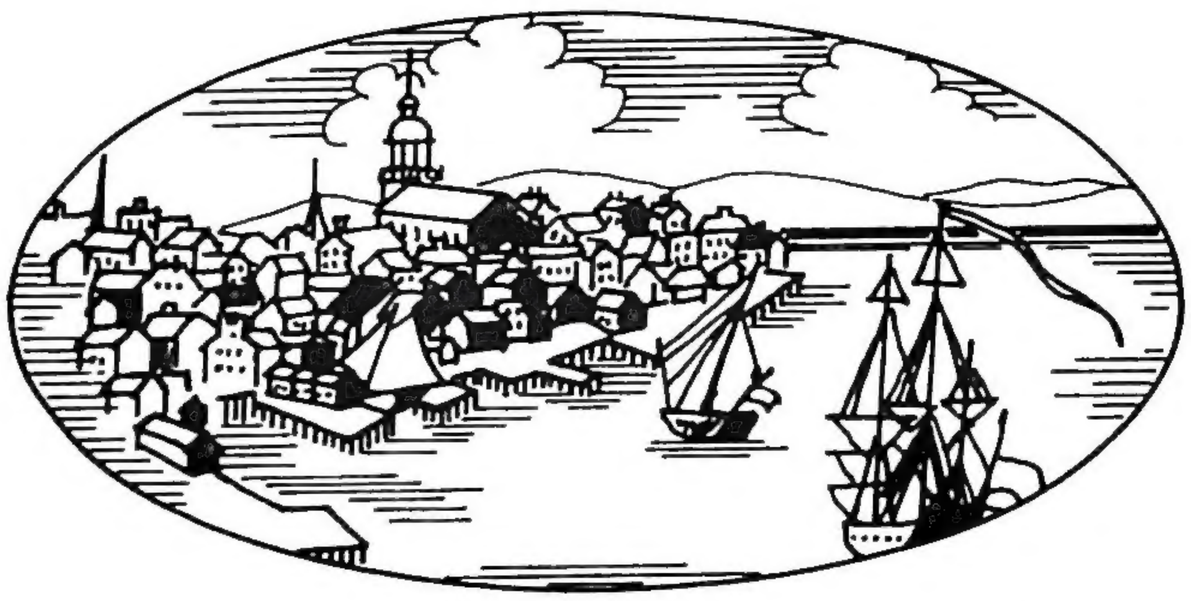

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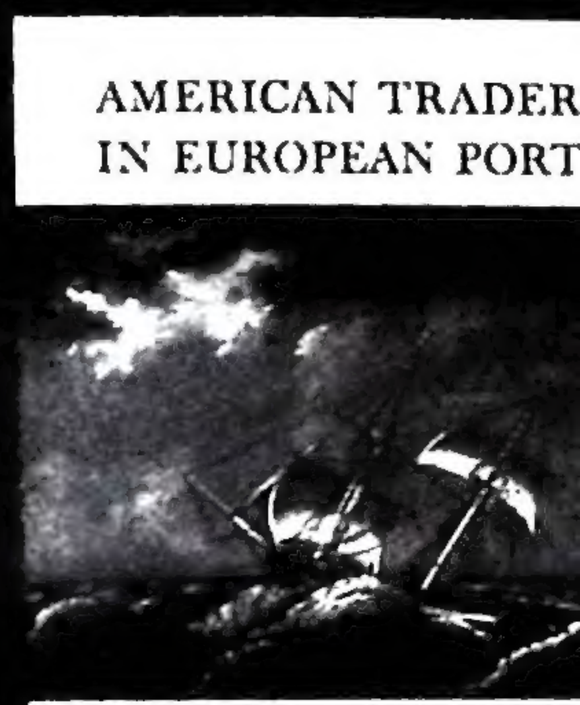

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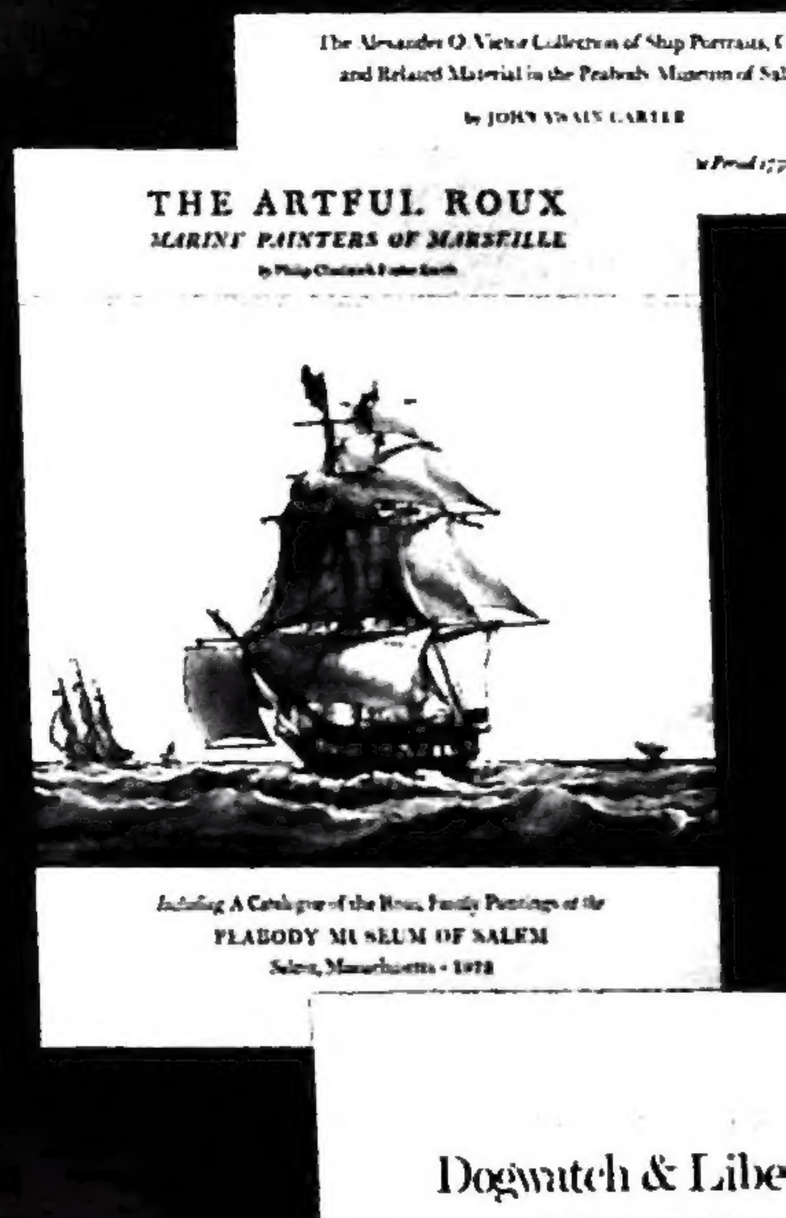

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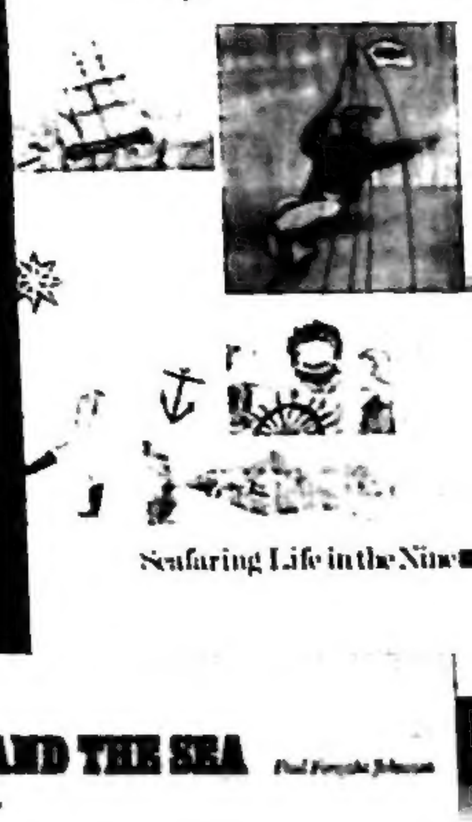

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